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Demographic shifts and green values in rural America : a southern Appalachian case

James Robert Talley
University of Tennessee

To the Graduate Council:

I am submitting herewith a dissertation written by James Robert Talley entitled "Demographic shifts and green values in rural America : a southern Appalachian case." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Sociology.

Robert Emmet Jones, Major Professor

We have read this dissertation and recommend its acceptance:

Sherry Cable, J. Mark Fly, Thomas C. Hood

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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DEMOGRAPHIC SHIFTS AND GREEN VALUES IN RURAL AMERICA: A SOUTHERN APPALACHIAN CASE

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee

James R. Talley
December 2001

DEDICATION

This dissertation is dedicated to my wife, Libby Talley.

I have enormous love and admiration for this amazing woman,
who has helped me chase my dreams for more than 36 years and
always makes me laugh.

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ABSTRACT

This dissertation examines changing environmental values in rural America, specifically as it applies to differences in support for environmentalism between in-migrants and non-migrants who live in rural places. As a means to this end, we closely examine hypothesized differences across several measures of environmentalism between rural in-migrant and non-migrant residents of the Norris Lake watershed area, in East Tennessee. We also explore the suggestion that the social bases of environmental concern may have changed over time due to a general greening trend that seems to be cutting across all social groups. Stern et al's (1995) working model of environmentalism is used as a guide to map several conceptual levels of environmentalism and link them to public support for the environment and to examine differences in environmentalism between rural in-migrants and non-migrants. These conceptual levels, or facets, of environmentalism include modified forms of Dunlap et al's (2000) New Ecological Paradigm Scale and Schwartz's (1992) theory of integrated value systems. We noted support for the proposition of a broadening of the social bases of environmental concern. We found significant sociodemographic differences between in-migrants and non-migrants. In-migrants and non-migrants share a common value system and both groups are pro-environmental, although in-migrants are more so. We found no differences between the two groups regarding pro-environmental behavior tendencies or political activity. Conclusions are discussed in terms of several paradigms – culture clash, gangplank, cultural infusion, new voices, and green migration – used to explain the effects of in-fluence of in-migration on rural communities.

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I
INTRODUCTION

Statement of the problem.

The central focus of this dissertation is changing environmental values in rural America, specifically as it applies to differences in support for environmentalism between in-migrants and non-migrants who live in rural places. As a means to this end, we closely examine hypothesized differences across several measures of environmentalism between rural in-migrant and non-migrant residents of the Norris Lake Watershed Area (NLWA), in East Tennessee. A notable derivative purpose of this dissertation is to explore the suggestion that the social bases of environmental concern may have changed over time due to a general greening trend that seems to be cutting across all social groups.

Public opinion and the greening of America.

Human societies have always modified their natural environments, and have pulled through even while periodically destroying societies and civilizations in doing so (Ponting 1991). Nonetheless, in the 20th century we began altering ecosystems with a speed, scale, and intensity unprecedented in human history (Worldwatch Institute 1999, 2000; *Environment* 1996/97; Stern 1996; Union of Concerned Scientists 1992; World Commission on Environment and Development 1987; Catton 1980; Ophuls 1977; Shepard & McKinley 1969). We know intuitively that quantity changes quality,[1] an

[1] I am sure the "quantity changes quality" phrase is attributable to Friedrich Engels, but have forgotten the source.

aphorism exemplified by a synergistic range of threats to environmental quality that began to attract the attention of the media, policymakers and the general public in the 1960s. The importance of the emerging awareness of the country's "environmental crisis" was manifest in the dramatic development of public concern for environmental protection, which reached a (then) peak with the inaugural Earth Day in 1970.[2]

Increased public support for environmental protection that began with the political activism in the 1960s waxed and waned during subsequent decades, accompanied by changes in major environmental themes, e.g., threatened and endangered species, the population explosion, the energy crisis, threatened communities, and endangered ecosystems. Throughout, however, pro-environmental attitudes have persisted and environmental protection has become an enduring public concern. A substantial accumulation of some 40 years of research has established that concern about environmental quality is an issue with broad public appeal in the United States,[3] and that few groups outrightly oppose environmental protection. Gallup's 2001 Earth Day Report

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[2]Indeed, the emergence of the environmental movement and environmental sociology during and after this period reflect and parallel the climb of public recognition of serious and growing environmental problems at home and abroad (For reviews, see Dunlap 2001, 1992; Gramling & Freudenburg 1996, Laska 1993; Smith 1995; Buttel 1987). It is interesting, and probably no accident, that the first Earth Day so closely followed the release of the galvanizing color photographs of the whole earth from space made by U.S. astronauts on the Apollo 8 moon mission in December 1968.

[3]Dunlap et al (1993), in their "Health of the Planet" survey, concluded the environmental concern issue resonates globally, as well. Their study included a range of 24 nations from several levels of economic development, and allowed testing of hypothesized differences in levels of environmental concern between industrial (and predominantly white) nations with non-industrial (and predominantly non-white). Their findings showed comparably high levels of concern for environmental quality in industrialized and non-industrialized nations alike. These results called into question "post-materialist values" theories (e.g., Inglehart 1990, 1995, 1997) that assume environmental protection is a luxury that poorer nations are not willing to sacrifice for and can ill afford (see also Brechin 1999; Brechin & Kempton 1994; Dunlap & Mertig 1997; Mertig & Dunlap 2001).

(Gallup 2001) shows a majority of the American public (57%) side with environmentalism where the environment and economic needs conflict (down about 10% from last year, probably attributable to a worrisome economic situation). Despite some predictions that public concern for the environment would be short-lived (e.g., Downs 1972), it appears public concern for the environment has become a major social value in the United States (Jones et al 1999, 2001; see also Dunlap 1987; Mitchell 1979; Anthony 1982).

The importance of public opinion. The growth of pro-environmental beliefs has been powered by popular exposure of new and quickly emerging scientific information bearing on environmental degradation, and by efforts by environmental movement organizations to shape public opinion and mobilize resources to harness it to local and national level action. In this manner, environmental issues have reached and maintained a certain level of prominence on federal and state policy agendas in the United States. Today, the combination of public support for environmental protection and public support for environmental groups remain key assets in legitimating the claims of environmental organizations, environmentally oriented stakeholder groups, the scientific community, and the public at large (Dunlap & Saad 2001; Smith 1995; Stern et al 1995; Dunlap & Mertig 1992; Dunlap1998; Jones et al 2001).

Public opinion research bears on environmental issues in a number of significant ways. It illuminates the boundaries, strengths and/or weaknesses, and the salience of environmentalism in the general public at any given time, as well as over time. It also helps frame major issues and situates the positions on these issues of major stakeholder

groups and other public constituencies, both pro- and anti-environmental. And it enables the recognition and tracking of patterns of public understanding, concern, and support for environmental protection among a range of different groups (Hannigan 1995; Dunlap 1989; Ewert 1995; Dunlap & Scarce 1991; Jones et al 2001).

How we are affecting the physical environment within which our social life takes place has generated prominent and persistent levels of public concern that is now routinely manifested in legislative action from the local to national level, highly visible public events, and formal international recognition. In short, public opinion research has helped establish and routinize environmental thinking in public discourse and has a cumulative effect on media coverage, policy issues, social values, community planning and development, public education, and future research (Jones et al 2001; Dunlap 1995; Wells 1995; Dunlap et al 1993; Stern 1993; Dunlap & Scarce 1991). And, as Buttel (1993, 1997) has argued, greening and environmentalization have become part and parcel of institutional practices in the United States that have important implications for rural America.

In-migration and the growth of green values in rural America. Residence has always been one of the important social correlates of environmental concern research. Early research, from the 1970s until around the mid 1980s, generally indicates urban residents were more concerned about the environment and more committed to environmentalism than rural residents (Van Liere & Dunlap 1980; Mohai & Twight 1986; Jones & Dunlap 1992). By around 1990, the rural-urban gap began to close; in a dozen or so studies during the 1990s, we find few or no reported rural-urban differences in concern

for the environment (e.g., Nord et al 1998; Lutz et al 1999; Jones et al 1999; Klineberg et al 1998; McBeth & Foster 1994; Arcury & Christianson 1993; Greenbaum 1996). The apparent rising levels of support for environmental values in rural America may be part of an overall greening of rural American lifestyles that is fueled in part by shifts in population trends.

Sociologists and demographers have long established that the United States experienced two signature migration trends during the twentieth century, i.e., migration to the Western and Southern states and migration from rural to urban areas (Johnson & Beale 1999). Then, in the 1970s, a "rural renaissance" (Stankey 2000:16) unexpectedly emerged, distinguished by movement from urban to rural areas (see also Schwarzweller 1979; Morrison & Wheeler 1976). A growing body of research suggests that increasing in-migration to rural areas may be a key variable in explaining the apparent fading differences between rural and urban environmental values. In recent years, migration has increasingly come under scrutiny as a predictor of rising support for environmental quality in rural locales, especially in places rich in natural amenities (Johnson & Fuguitt 2000; Jones et al 1999, 2001; Goetz et al 1996; Johnson & Rasker 1995), such as the Norris Lake Watershed Area.[4]

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[4]U. S. Census data for the period 1990-1998 for the seven counties in and around the NLWA indicates an average natural population increase of 1.8 percent. The rate of net domestic migration for these same counties was 8.8 percent, or about five times the rate of natural increase. Corresponding figures for the state of Tennessee shows a natural increase of 4.1 percent and a rate of net domestic migration of 6.9 percent (Census 2000: http//www.census.gov/population/estimates/county; *Tennessee Statistical Abstract* 1999/2000).

A heuristic model of environmentalism.

Despite a substantial and ongoing effort by social science researchers and opinion pollsters concerning public attitudes toward environmental issues, there has been limited progress in accounting for variation in concern for environmental quality. Early and ongoing research to isolate variables in the social structure that predict concern for the environment has provided some reliable, but weak, associations. The insufficient explanatory power of existing environmental concern models points to a need for a more complete conceptualization of how we measure environmentalism.

To address this problem, we use Stern et al's (1995) working model of environmentalism as a guide to map different conceptual facets of public support for the environment. The model assumes environmentalism is best approximated using a comprehensive set of measures that range from the general (e.g., position in the social structure and values) to the specific (e.g., behavioral intent and behavior). In other words, the social structure shapes early experiences and therefore an individual's values and general beliefs. Values and beliefs, in turn, influence personal norms, behavioral intent, and behavior itself.

Guiding on this model, we used the following variables as indicators of environmentalism: (a) particular sociodemographic variables common to the environmental concern literature; (b) a modified form of Schwartz's (1992, 1994, 1996) theory of integrated values and cross cultural research on universal value structures, (c) an abridged form of Dunlap et al's (2000) New Ecological Paradigm Scale; (d) general and specific measures of environmental concern; as well as (e) certain measures of behavioral

intent and behavior. These conceptual dimensions are theoretically contiguous and thus allow an examination of linkages between cognitive dispositions toward environmental quality, specific attitudes, beliefs and values toward environmental issues, and the potential for participation in pro- or anti-environmental actions related to eco-system management strategies and policy making decisions (see also Kim & Hunter 1993; Stern & Dietz 1994; Dietz et al 1998; Guagnano et al 1995; Stern et al 1999).

Researchers have systematically investigated about how environmental concern is conceptualized and measured (Dunlap & Jones 2001) and added certain cognitive and behavioral variables to their models in order to better explain and understand the social bases of public support for environmental protection. Much research on the effects of in-migration relies on demographic and general attitudinal comparisons between in-migrants and non-migrants. Our approach allows multi-level comparisons of public support for environmental values between these two groups. Further, the model will enable a more thorough test of five theoretical frameworks – cultural clash; cultural infusion; gangplank/last settler; new voices; and green migration – commonly associated with the consequences of in-migration to rural America.

Arrangement of the dissertation.

The remainder of the dissertation is organized in similar fashion to a conventional journal article. The *literature review* is divided into two chapters. Chapter 2 addresses the social bases of environmentalism with an examination of a substantial corpus of research during the period 1970 to 2000 on a range of standard sociodemographic

correlates of environmental concern. This literature review is organized by decade, i.e., the 1970s, the 1980s, and the 1990s, and uses an integrated discussion of theory and research findings to address factors associated with the social bases of concern for environmental quality. I summarize findings from previous research that address the social correlates of concern for environmental quality, identify gaps in that body of literature, and point out certain issues that require further study.

Chapter 3 addresses the widely unanticipated sea change in rural-urban migration patterns in the United States that occurred between about 1970 and 2000. This literature review is also organized by decade, i.e., the 1970s, the 1980s, and the 1990s. It documents the late-twentieth century shift in rural-urban migration patterns in the United States and links the migration shift to a body of research on amenity migration and to corresponding shifts in environmental values in rural areas.

Chapter 4 addresses the *conceptual framework, methodology and hypotheses* used in the dissertation. It briefly addresses some theoretical and methodological problem areas derived from the Chapter II and III literature reviews, and discusses how they are treated in this study. I also include a description of the data collection method, sampling and statistical procedures, operational definitions of all major concepts, the unit of analysis, the identification of independent, dependent, and control variables, and the hypotheses tested.

Chapter 5 presents the *findings* of the study, pointing out the degree of support for various hypotheses and suggesting interpretations of the results based on previous research and theory.

The *summary, conclusions, and implications*, covered in Chapter 6, recapitulates the major findings. I also discuss the theoretical and practical implications drawn from the results, the limitations of the research, and the implied directions for future research. Finally, the *bibliography* provides a list of works used in the dissertation, and an *appendix* section contains pertinent information from the survey used to construct the data base for the dissertation.

II
THE SOCIAL BASES OF ENVIRONMENTALISM, 1970-2000

Contemporary research on the social bases of environmental concern typically touches first on Van Liere and Dunlap's (1980) summary of then existing studies, which looked at what effects certain standard sociodemographic variables – age, gender, political preference, residence, and social class – had on environmentalism during the 1960s and 1970s. A number of key findings came out of this benchmark appraisal. First, by the end of the 1970s, there was enough evidence on the social correlates of environmental concern to generalize with some confidence that well educated, younger, and politically liberal persons tend to be more concerned about the quality of the environment than their less educated, older, politically conservative opposites. Second, researchers had realized only qualified success in explaining the social bases of environmental concern. Even in the best cases, bivariate correlations were of modest magnitude, and, in the few cases where multivariate analyses were available, these studies typically explained only 10 to 15 percent of the variance in environmental concern. Third, the limited utility of stand-alone sociodemographic variables in explaining variation in concern for environmental quality implied widespread distribution of such concern. To strengthen our understanding and ability to explain the social bases of environmental concern, Van Liere and Dunlap (1980:192-194) suggested researchers expand the conceptualization of environmental concern to include particular issues (in addition to general ones), and add cognitive variables (to sociodemographic ones) to their

study of support for environmental protection.

This literature review examines a substantial corpus of research during the period 1970 to 2000 on a range of sociodemographic indicators of environmental concern. I use an integrated discussion of theory and research findings for the following variables – age, gender, political ideology, education, income, race, and residence – to evaluate the traditional social bases of public concern for environmental quality. I review the variables by (a) discussing the hypotheses for each, and (b) organizing the research findings for each variable by decades – 1970s, 1980s and the 1990s. At the end of the variable-by-variable review, I describe the trends for each variable over time, and provide an overall summary of the important points, i.e., salient findings, strengths of relationships, and gaps in the research.

Age.

The question of *age group differences* in levels of concern for the environment posits a negative relationship between age and environmental concern, i.e., younger age groups will tend to manifest higher concern for the environment than their older counterparts. Theoretically, the young are less integrated into the social structure and have less invested in the status quo than their elders, who represent the dominant culture and prevailing social value system. Because responses to environmental problems typically are viewed as requiring shifts in traditional values, habitual behaviors, and stability-oriented institutions, we expect youth to be more receptive to pro-environmental values, to manifest higher levels of concern for environmental issues, and to more

strongly support environmental reform.

The significance of generational change for social transformations is a durable issue addressed by authoritative theorists such as Mannheim (1928) and Ryder (1965). The impact of the age/environmental concern relationship can be theoretically distinguished by examining "life-cycle effects" and "cohort effects." Life cycle effects are seen as resulting from biological, psychological, and social changes that accompany the aging process, while cohort effects stem from belonging to a certain generation. Pro- and anti-environmental values might hypothetically result from transformations in attitudes due to psychological, social, or biological changes that accompany the aging process (life-cycle effects), or might be causally related to attitude differences due to generational (cohort) differences in a cross-sectional sample (see Kanagy et al 1994; Hays 1987; Mohai & Twight 1987; Hornback 1974; Ryder 1965).

Mannheim's (1928) "sociology of generations" (Coser 1972:434) is a cohort argument that suggests that important historical events at crucial times – adolescence and young adulthood – will permanently shape generational values and world views. Applying this theoretical position to a cohort of 18-30 year olds – the "youth movement" of the 1960s and 1970s – implies that being concerned about and more actively engaged in environmental issues is a predictable outgrowth of their disproportionately high level of participation in activities supporting civil rights and opposing the Vietnam War (Buttel 1979). We might also expect that, as this cohort was increasingly exposed to information on environmental degradation, it would carry with it an increasingly ecology-minded set of values into adulthood.

Frederick Buttel (1979) used path analysis to argue that the environmental concern/age correlation was largely direct, rather than through the indirect effects of intervening variables, such as political ideology or education. Buttel contends the inverse variation is attributed to aging (life-cycle) effects, rather than generational (cohort) differences, while acknowledging it was not possible to unambiguously distinguish between the two (see also Hornback 1974; Mohai & Twight 1987). Ryder (1965) argues the reverse is more probable, theorizing that generational change is causally related to the conditions and experiences in the formative adolescent and young adult years of a given cohort (see also Inglehart 1990; Hayes 1987).

Both explanations of why the young are consistently more pro-environment are supported by current research, but whether attitude differences among age groups are explained by aging effects or cohort differences is difficult to ascertain from survey data, and even when longitudinal data are obtainable, particular environmentally significant political or economic events (period-specific effects) may methodologically confound the analysis.(Glenn 1981, 1977; Palmore 1978; see also Kanagy et al 1994).

The age variable: 1970s. In their comprehensive review of late-1960s and 1970s studies on the social correlates of environmental concern, Van Liere and Dunlap (1980) found considerable support for a moderate, negative relationship between age and concern for environmental quality over a wide range of studies for the decade. Focusing on twenty one studies that reported *bivariate* correlations, Van Liere and Dunlap did note scattered research findings that report negligible or no correlation (e.g., Constantini & Hanf's [1972] study of Lake Tahoe area elites; see also McEvoy 1972; Koenig 1975), or,

in some cases, a slight positive correlation (e.g., Tognacci et al's [1972] sample of Boulder, Colorado residents; see also Harris 1970; Arbuthnot & Lingg 1975; and Van Liere & Dunlap 1978).

In a study that gathered data from a sample of Washington State residents in 1976, Van Liere and Dunlap (1981) found age to be inversely related to concern for environmental quality, regardless of which of several scales were used to measure environmental concern. And, McTeer's (1977) study of two areas in and around Atlanta points out significant differences between teenagers and adults in their concern for environmental quality. The differences in concern levels between the teens and their parents were less than those found between teens and secondary school teachers and administrators.

Buttel and Flinn (1974), when they applied *multivariate*, rather than bivariate, measures of analysis to statewide data in Wisconsin, found age to be a clear and major predictor of both awareness of environmental problems and support for environmental reform, accounting for considerably more variance than occupation, income, or education. Similarly, Malkis and Grasmick (1977), used multivariate analysis in a survey of Minneapolis area residents and found concern for the environment to vary inversely with age, with younger age groups articulating the greatest concern.

Overall, then, the preponderance of evidence during the 1970s supported the predicted, albeit moderate, negative relationship between age and environmental concern.

The age variable: 1980s. Relative youth continued to be consistently correlated with an elevated concern for environmental quality throughout the 1980s, (Morrison

1987; Hamilton 1985), a decade that has been characterized as one of "surging environmentalism" (Kanagy, et al 1994:804; see also Dunlap and Scarce 1991). Mohai and Twight (1987) used a major national stratified sample survey to examine the environmental concern/age relationship, finding age to be the strongest and most consistent predictor of environmental concern, and that the direct effects of age are more robust than its effects through intervening variables. Kanagy and his colleagues (1994), examined General Social Survey (GSS) data for the period 1980 to 1990, and found younger cohorts more pro-environment, on balance disproportionately favoring increased support for environmental spending. Employing longitudinal data from three (1980, 1984, and 1988) Michigan National Election Studies (NES), Howell and Laska (1992) found that, while age and concern for environmental quality were still inversely related and the correlation still statistically significant, age had grown less important as a predictor of environmental attitudes. Jones and Dunlap (1992), using data from the National Opinion Research Center's GSS (1973-1990), examined bivariate correlations for 11 sociopolitical variables associated with concern for environmental quality. Their findings showed age is clearly the best predictor variable throughout the 1980s, both in terms of size and reliability.

The age variable: 1990s. Empirical research throughout the 1990s shows age to be a relatively good predictor of concern for environmental quality (Greenbaum 1996, Inglehart 1990, Olsen et al 1992). Klineberg et al (1998) used the biennial Texas Environmental Survey for 1990, 1992, 1994, and 1996 and found consistent negative correlations between age and environmental concern. As is the case in the 1970s and

1980s, however, not all the evidence supports a negative relationship between age and concern for environmental quality. Using data from a random sample survey of residents in Western Canada, Wall (1995), for example, found that age did not have a statistically significant effect on environmental concern, nor was the effect in the predicted direction. This finding lends some support to the hypothesis that age is having less impact on both general and specific environmental concern as the growing effects of environmental degradation is propagated throughout the population via media exposure and political discourse (see also Howell & Laska 1992; Derksen & Gartell 1993; Woodrum & Hoban 1994). Nonetheless, the preponderance of research in the 1990s shows that environmental concern varies inversely with age (Baldassare & Katz 1992; Olsen et al 1992; Filson 1993; Kanagy et al 1994; Murphy 1994; Kanagy & Willits 1993; Klineberg et al 1998; Jones et al 1999).

In sum, from the 1970s through the 1990s, age has been a modest, but reliable predictor of concern for environmental quality. It is young adults who tend to favor increased environmental protection, be more receptive to pro-environmental ideology, and more strongly support environmental reforms than their older counterparts.

Gender.

The question of *gender differences* in concern for the quality of our environment turns on the task of explaining how and why women and men stand in a different relationship to their environment (Mellor 1997). Empirical research of the environment as a gendered issue rests on two premises. First, the environment is a resource to be

drawn from and developed in the name of economic advance (Blocker & Eckberg 1997; Dunlap & Van Liere 1984), and second, women are systematically ascribed care giver roles while they are concomitantly and relentlessly denied ready entry to economic markets and the spheres of technology and science dominated by men (Ortner 1974; Merchant 1979; Jackson 1993). Gilligan's (1982:2) assertion – "the factors of social status and power combine with reproductive biology to shape the experience of males and females and the relations between the sexes" – is writ large throughout social theory, and yokes the two most commonly used theoretical arguments (structural and socialization) to explain gender differences in environmental concern. From these premises it follows that males tend to be negative and destructive toward the environment, while women are inclined to be ecologically positive and nurturing (see also McStay & Dunlap 1983; Nelkin 1981).

Socialization theory claims that females are oriented toward a care giver role, thus rewarding women to be more nurturing, cooperative, and compassionate than men (Beutel & Marini 1995; Gilligan 1982). As these values are internalized, the "motherhood mentality" (Blocker & Eckberg 1993:842) of women reaches out toward nature and its protection as part of a greater whole. Males, on the other hand, develop a "marketplace mentality" (Blocker & Eckberg 1993:842) via a socialization process that stresses an economic provider role for men. The provider role manifests itself in an ecologically hostile stance toward the natural world, one that awards priority to technical domination of Earth and exploitation of its resources, irrespective of the environmental consequences (Ortner 1974; Merchant 1979). Social structural theories elaborate from socialization-

based explanations of divergent orientations of women and men toward the environment. The differences in male/female ecological perspectives extend theoretically from the gendered nature of society's political and economic systems and the occupational structure in which men have historically maintained the breadwinner role and dominated the techno-scientific realm (Deitz et al 1998; Blocker & Eckberg 1997; 1989; Stern et al 1993; for a substantive review, see Davidson & Freudenberg 1996).

The gender variable: 1970s. In their review of studies conducted in the 1960s and 1970s, Van Liere and Dunlap (1980) noted that, for the most part, gender differences in concern for environmental quality were ignored or overlooked by researchers in the 1970s, and what studies there are tend to show slight gender differences that are often contradictory. In an early paper on the conceptualization and social correlates of environmental concern, Van Liere and Dunlap (1978) reported females as slightly more concerned than males on three of eight scales measuring various dimensions of concern for the environment. Artbuthnot and Lingg (1975), in a two-nation comparison (French-United States) found males slightly more concerned than females. Other sources (e.g., Hornback 1974) report no gender differences.

Davidson and Freudenburg's (1996) lucid summary of eighty five published works, however, points to a consistent pattern of gender differences in the 1970s when nuclear energy/waste and other risk-aversive gender comparisons are made. In every study that involved nuclear power or radioactive waste in the1970s, women were more concerned than men; in fifteen of sixteen studies of general environmental concern, men evidenced more concern than women (see also Bord & O'Connor 1997).

The gender variable: 1980s. Jones and Dunlap's (1992) analysis of GSS data for the1980s suggests gender is a relatively poor predictor of concern for environmental quality, when general concern is measured using the GSS item on public support for spending on behalf of environmental quality. When gender differences do show up (1980, 1982, 1984), women are found to be more environmentally concerned than men. In a telephone survey of 300 Tulsa, Oklahoma families that addresses gender differences in concern toward general and local environmental issues, Blocker and Eckberg (1989) found no important gender effects for general measures of environmental concern, but statistically significant gender disparities pointing to increased concern by women about local issues with environmental consequences. Their data suggest that the "women's issue" label is not suitable for concern for the environment in general, but is appropriate when applied to local environmental issues (Blocker & Eckberg 1989:591; see also Brody 1984; George and Southwell 1986). Hamilton (1985a) surveyed two New England communities with recent experiences with toxic waste contamination, finding women significantly more concerned about environmental contamination problems than men. His data was robust enough to support this conclusion across a variety of particular local issues and specific measures (see also Hamilton 1985b).

An examination of gender differences in environmental concern and activism based on a 1980 national survey (Mohai 1992), indicated gender differences that, while statistically significant, were modest. Overall, women were judged somewhat more pro-environment, supporting McStay and Dunlap's (1983) and Blocker and Eckberg's (1989) findings in non-national studies of gender differences in concern for general (i.e., non-

local) environmental issues (see also Jones & Dunlap 1992).

In the 26 studies for the 1980s decade cited by Davidson and Freudenberg (1996), 21 showed women more concerned about the environment than men. Where these studies were focused on broad questions of general concern for the environment, the findings are mixed, both in terms of direction and strength. On the other hand, where nuclear technologies or concerns about local toxic contamination are the center of controversy, the data consistently show statistically significant gender differences in the predicted direction.

The gender variable: 1990s. Davidson and Freudenberg's (1996) useful summary of some twenty five years of gender and environmental risk research notes 21 studies from the1990s. Nineteen of the 21 show women as more highly concerned than men about environmental quality. In a study on the public management of natural resources in two communities in Utah (Fortmann & Kusel 1990), women were found to be more pro-environment than men, although not all of the differences were statistically significant. Other research (Blocker & Eckberg 1997) found women to be more environmentally concerned on a number of measures (e.g., the likelihood of leading a green lifestyle; to fear the effects of pollution; to express belief in animal rights), but not on others (the likelihood to engage in any type of environmental action). This dovetails with findings that emerged from the 1970s/1980s of heightened women's concerns for health and safety issues and that gender differences exist primarily for local issues, not for more general ones. Jones and his associates (1999), found no gender differences in general concern for the environment, but did report males placed higher priority on

environmental protection, while females were more likely to engage in social and political aspects of environmentalism.

In sum, the relationship between gender and environmental concern has produced mixed results, and an overall unsettled picture of gender as a predictor of environmental concern (Mohai 1992; Deitz et al 1998; Stern et al 1993; Stern, Dietz, & Kalof 1995). On balance, women seem somewhat more concerned than men, particularly so with regard to local environmental issues. Gender alone is a weak predictor, however, and a number of mediating factors have been explored. Blocker and Eckberg (1989), for example, found labor force participation a factor. Women who are homemakers are less concerned about general environmental issues than men, and more concerned about the effects of environmental protection on the economy than women who worked outside the home. They also found that women with young children were more likely to favor environmental protection over economic benefits, but men with youngsters favored the reverse (see also George and Southwell 1984, Hamilton 1985a). Other mediating factors may include parenthood (Hamilton 1985b), ethical socialization (Stern et al 1995), or value orientation (Deitz et al 1998; Karp 1996).

Political ideology.

The late 1960s and early 1970s witnessed the establishment of the Environmental Protection Agency, Earth Day's inaugural and the attendant birth of the contemporary environmental movement, a growing swell of popular support for green issues, and rising public support for independent organizations with green perspectives (e.g., the Sierra

Club and Zero Population Growth). This surge projected an impressionist-like portrait of environmental concern as a consensus political issue with appeal so generic as to transcend party lines and ideological differences. (Dunlap & Mertig 1992; Buttel & Flinn 1976; Tognacci et al 1972).

To test the assumption of a widespread view of environmental quality as a nonpartisan issue, Dunlap and Gale (1974) hypothesized significant differences along traditional ideological and partisan lines. Their theoretical accounting for differential levels of support from Republicans and Democrats is based on the linkage between environmental politics – common proposals and policies directed at stopping or checking the growth of environmental degradation – and conservative and liberal political ideologies that are conventionally associated with the Republican and Democratic parties, respectively.

Almost inescapably, environmental reform policies and practices aimed at protecting or enhancing environmental quality necessitate added costs to business and industry. Generally, environmental protection also requires action by the government, i.e., expanded government control and regulation over the private sector (Morrison 1973; Constantini & Hanf 1972). Finally, environmental protection puts a premium on innovative conceptualizing – resolving puzzles outside the box – to even begin to adequately address the new set of problems generated by increasingly disruptive interaction between human systems (especially economic) and ecological ones. Given conventional Republican favoritism toward business, opposition to government expansion and regulation, and distrust of relatively untested ideas, this model predicts

significant differences in environmental concern between Republicans and Democrats as well as between political liberals and conservatives, with Democrats and political liberals more inclined to favor pro-environmental policies and actions.

Buttel and Flinn (1976) hypothesized different effects of political party identification and political ideology on awareness of environmental problems and support for environmental reform. They assumed that many significant environmental problems involve a commons (Hardin 1968), and that the environmental movement, following its initial successful mobilization of public awareness of environment problems, had reset its course away from a nonpartisan appeal toward a reform liberal stance. From these assumptions, they argued that significant differences in concern for environmental quality would be more likely to show up along lines of political ideology, rather than along partisan lines. Political liberals, in other words, are more likely to support reforms to protect the environment than conservatives, but Democrats are no more likely to be environmentally concerned than Republicans (see also Constantini & Hanf 1972; Morrison 1973).

The political variable: 1970s. A few studies in the 1970s found no partisan differences in environmental attitudes in the American public (Buttel & Flinn 1974; Springer & Constantini 1974), while several others found moderate positive associations between Democratic party affiliation and environmental concern (e.g., Koenig 1975). In an analysis of the relationship between political party membership and pro-environment voting in the Oregon legislature, Dunlap and Gale (1974) found significant partisan differences, with Republicans consistently less supportive of environmental protection

than their Democratic opposites. Tognacci et al (1972) also reported Democrats as significantly more pro-environment than Republicans.

Buttel and Johnson (1977) examined a range of attitudinal and policy-related interview questions of a sample of elites in 32 Wisconsin communities, finding political liberalism a better predictor than Democratic party identification in two dimensions of environmental concern. Buttel and Flinn (1978a:22), further qualified liberal ideology as either "anti-laissez faire" or "welfare state" liberalism. They found both correlated positively with environmental concern, with anti-laissez faire liberalism showing a significantly stronger relationship. Overall, they found no major relationship between political party preference and concern for environmental quality, and that what relationships did exist are best explained by political ideology. Jones and Dunlap (1992) reported that throughout the 1970s political liberalism was significantly correlated with favoring higher levels of public spending on behalf of environmental quality.

While party identification has been a relatively unimpressive indicator of concern for environmental quality among the general public in the 1970s, it contrasts sharply with research that shows Democratic Party politicians and party elites' strong tendency to vote in the pro-environment direction far more often than their Republican counterparts (Dunlap 1973; Dunlap & Gale 1974, Buttel & Flinn 1976). On balance, the data do not support the hypothesis of political party identification in explaining variation in environmental concern in the general public. There is stronger and more consistent evidence, however, that political liberals are more supportive of environmental protection than their ideologically conservative counterparts.

The political variable: 1980s. An analysis of three National Election Study (NES) presidential election surveys in Michigan from the 1980s (Howell & Laska 1992) found a decline in the importance of political ideology as a predictor of pro-environmental spending over time. Ideology remained meaningful, but became relatively less so between 1980 and 1988. Mohai and Twight (1987) found a significant relationship between political liberalism and environmental concern, but recommended circumspection in interpreting the results because of the relatively narrow focus they used in measuring political liberalism and a large sample size. Samdahl and Robertson's (1989) examination of data drawn from a survey of Illinois state residents supports the earlier findings (Dunlap 1975; Buttel & Flinn 1978a) of the importance of political ideology as a factor in environmental concern. Jones and Dunlap (1992) used 1973-1990 GSS data to examine possible changes over time in the social bases of support for environmental quality, finding political liberalism significantly related to public spending on environmental protection throughout the 1980s. Their data also show statistically significant relationships between political party and environmental concern, although the bivariate correlation coefficients for political party were consistently of a lower magnitude than the coefficients for political ideology.

The political variable: 1990s. Using a national data set, Deitz and his associates (1998) found political liberalism consistently and positively associated with environmentalism across a range of several measures. Wall (1995) employed data gathered in a western Canadian city to compare predictors of general environmental concern with the predictors of concern about a local environmental problem. She found

political party identification an important determinant in both cases, but attributed the significant effect of party designation to ideological factors. A statewide survey of Pennsylvanians showed strong bivariate correlations between political liberalism and both pro-environmental consumer and pro-environmental political behavior (Scott & Willets 1994). Klineberg et al (1998) examined four measures of environmental concern using the Texas Environmental Survey for 1990, 1992, 1994, and 1996. They reported political liberalism as significantly related to environmental concern on 3 of 4 composite indices they constructed for each of four measures of environmental concern. In a study of environmentalism in the Southern Appalachian Ecoregion, some 135 counties in 7 states, Jones and his co-authors (1999) found political ideology significantly correlated in the predicted direction on several cognitive and behavioral indicators of environmental concern.

In general, from the 1970s through the 1990s, political party has been a less reliable indicator than political ideology in predicting support for environmental protection, possibly because the two party system that dominates our political process tends to thin partisan differences. In the 1970s there was some support for the hypothesis that Democrats were more environmentally concerned than Republicans, although the coefficients are small. A more convincing argument, however, was that political ideology – measured on a conservative-liberal continuum – was the key variable in predicting public support for protecting the environment. The evidence pointed to more consistent and relatively more robust correlation coefficients between concern for the environment and political liberalism. In the 1980s and 1990s, political liberals remained consistently

more pro-environment than their conservative opposites.

Social Class.

The issue of social class differences in environmentalism suggests a positive relationship between indicators of higher social class and elevated levels of concern for environmental quality. Theoretically, this assertion conceptualizes education, along with income and occupational prestige, as key measures of social class (Gilbert & Kahl 1993; cf Wright 1985, Weber 1922). Those with more formal years of education, higher incomes, and who work in prestigious occupations will be more concerned about the quality and protection of the environment than their less educated counterparts with lower incomes and less prestigious jobs.

Another classic theoretical account is Maslow's (1954) motivation theory, in which he proposes a 5-level hierarchy of needs – physiological, safety, love and belonging, esteem, and self-actualization – where higher order needs cannot become important to the individual until lower order needs have been satisfied. This framework places concern for environmental quality as an aesthetic and higher order need, a relative luxury that we attend to only when more fundamental material needs – what Maslow (1962) called *deficiency needs* – have been adequately met. Presumably, the upper classes have more time, interest, and energy to devote to higher order needs – Maslow's (1962) *being needs* – than their lower class opposites, who must spend more time and effort on meeting basic needs.

In an analogous argument, Morrison and his associates (1972:271) posit that the

different social characteristics of environmentalists and non-environmentalists point to a "participation paradox," whereby environmental concerns surface more readily and are more salient with those groups with relatively higher quality environments. They theorize that it is relative, rather than absolute, deprivation that is associated with higher levels of concern for environmental quality. Persons in the lower classes typically have experienced poor physical conditions in their lives, and so are less concerned about living, working, and playing in polluted, overcrowded conditions. In opposite fashion, the more educated middle and upper classes are more likely to have higher quality residential, work, and recreational environments. Because they have relatively more to lose than those in the lower classes from environmental deterioration, they are more concerned about environmental quality. Morrison (1986:187) has also theorized a "trickle down" effect for environmental concern among the social classes. That is, environmental consciousness has propagated downward through the social strata over time from the core of a successful elite-led environmental movement and other elites to the general public.

Althoff and Greig (1977) suggested that the disproportionate concern about environmental quality by more privileged classes is explained by their relatively higher overall levels of social and political activity. In this argument, environmental concern is simply one of many particular interests within a broader domain of interest in social problems generally. It is these classes – which have more discretionary time – that are traditionally involved in various forms of civic, service, and political organizations (see also Martinson & Wilkening 1975; Buttel & Flinn 1974).

Contrariwise, other researchers have challenged the application of findings drawn from studies of environmental elites to the general public. Also questioned is the implication that middle class appreciation of and responsibility toward environmental protection explains working class ambivalence, disinterest, or irresponsibility toward nature. Buttel and Flinn (1978b), for example, turn upside down the relative deprivation hypothesis (see Morrison et al 1972), arguing it is precisely because the lower and working classes typically live in highly polluted areas, work in poor or relatively dangerous physical environments, and have little or no access to high quality recreational facilities, that we should expect to see them at least as concerned, if not more so, about environmental problems than the more advantaged classes (see also Buttel & Flinn 1974; Jones & Dunlap 1992).

The social class variables: 1970s. During the 1970s, researchers generally found positive relationships between educational levels and concern for the environment (Arbuthnot & Lingg 1975; Buttel & Flinn 1976; Martinson & Wilkenson 1975; Van Liere & Dunlap 1978; Murdock & Schriner 1977; National Wildlife Federation 1972). Additionally, Buttel and Flinn (1974) undertook a longitudinal study of statewide Wisconsin data sets for 1968, 1969, and 1970 and found education a consistent predictor of concern for environmental quality over time. Jones & Dunlap (1992) examined the social bases of environmental concern using GSS data from 1973-1990. They found moderate, statistically significant correlations between education levels and support for pro-environmental spending throughout the 6 years of the 1970s for which they had data.

At the same time, some studies reported a mix of associations that varied with

different measures of environmental concern (e.g., Tognacci et al 1972; Buttel and Johnson 1977), while Koenig (1975) reported no effects of education on concern for the environment.

For the 1970s decade, analysis of income level and occupational prestige, as predictors of a broader social class relationship vis a vis concern for environmental quality, revealed relationships that were weak, inconsistent, ambivalent, or in the wrong direction. Buttel and Flinn (1974), for example, found a positive relationship between higher incomes and environmental concern. In a subsequent study, however, Buttel and Flinn (1978b) drew into question an assumed significant connection between SES and environmental concern. Applying multivariate analysis to control a number of intervening variables, they found the relationship between environmental concern and socioeconomic status to be meager, at best. Several other research findings in the 1970s noted insignificant correlations, as well (e.g., Koenig 1975; Springer & Constantini 1974), and others found relationships in the negative direction (Malkis & Grasmick 1977; Van Liere & Dunlap 1978; Constantini & Hanf 1972; Jones & Dunlap 1992).

Most researchers reported only slight, albeit positive, relationships between occupational prestige and environmental concern. As was the case with education, some research (e.g., Van Liere & Dunlap 1978) found report mixed associations between occupational prestige and different measures of environmental concern, i.e., positive correlations in some instances, negative in others. Jones and Dunlap (1992) found statistically significant bivariate correlations between occupational prestige and environmental concern in 1973 and 1974, but no relationship for the years 1975-1978.

Overall, in the 1970s, higher education level is a fairly consistent predictor of higher levels of concern for environmental quality. However, the other traditional indicators of social class – income and occupational prestige – have little or no relationship to environmental concern.

The social class variables: 1980s. Mohai's (1985) study of public concern and elite involvement in environmental issues examined the assumption that environmental values are predominantly upper-middle class values. Mohai developed a model combining a social psychological perspective with that of resource mobilization that suggested upper-class involvement in environmental activism is due to factors other than their special concern for the environment *per se*. Specifically, he concluded that the link between the upper-middle class and environmental activism is a link between SES and political activism, rather than a link between the upper-middle class and environmental concern. In other words, environmental concern and environmental activism appear to be different dimensions of environmentalism. Research does show that membership in mainstream environmental groups is primarily drawn from white, upper-middle and upper class groups (Morrison & Dunlap 1986; Freudenberg & Steinsapir 1992), and at the same time points to the environment as a major concern among all groups of Americans (Jones & Dunlap 1992).

As was the case in the 1970s, the research literature generally validates the predicted positive relationship between education and concern for environmental quality. When Jones & Dunlap (1992) looked at changes in the social bases of environmental concern over time, they found education a reliable indicator of concern for environmental

quality. Statistically significant bivariate correlations were noted for each year in the 1980s, with the magnitude of the coefficients somewhat higher in the latter half of the decade. Mohai and Twight's (1987) causal model that linked various sociodemographic variables to environmental concern, showed education had strong causal effects (second only to age) on environmental concern. Kanagy and his associates (1994), using a national data set, found that education had a significant, positive effect on concern for environmental quality throughout the 1980s.

In a longitudinal analysis of National Election Studies (1980, 1984, 1988) in Michigan, Howell and Laska (1992) found education an increasingly significant predictor of support for increased environmental spending. These Michigan data sets suggested that, while in 1980 the relationship between education and environmental concern was not significant, by 1988 education had become the best of the standard social correlate predictor variables of environmental attitudes.

Not all research, however, upheld the consistently positive and significant correlations generally found between education and environmental concern. Samhadl and Robertson (1989) developed a causal model that uses demographic and ideological variables as co-determinants of environmental concern. With causal analysis controlling for the effects of all other variables in the model, the authors found an anomaly – an overall negative effect of education on perceptions of environmental problems and support for environmental regulation. The unusual negative correlation resulted when the standard model was run, as well as when analyses of derivative sub-samples were done.

During the 1980s, research pointed to a weak and inconsistent relationship

between environmental concern and income and occupational prestige. Samdahl and Robertson (1989) reported a slight negative associations between income and perceptions of environmental problems, support for environmental regulation, and personal ecological behaviors. Mohai and Twight (1987) found near zero bivariate correlations between both income and occupational prestige on two separate measures of environmental concern. Kanagy et al (1994) examined General Social Survey data for the 1980s and found no relationship between either income or occupational prestige and support for increased spending for environmental protection. Jones and Dunlap's (1992) review of the social bases of environmentalism reported insignificant relationships between income and support for increased environmental spending during the first half of the 1980s, and modest, but statistically significant bivariate correlations for each year from1986 to1989. The relationships between occupational prestige and environmental concern reported by Jones and Dunlap (1992) were more mixed. Significant correlations were reported for 1984, 1987, and 1989, but in all cases the coefficients were quite modest.

As was the case in the previous decade, higher education in the 1980s is a consistent, but modest predictor of environmental concern. Occupational prestige and income appear to have little or no relationship to concern for environmental quality.

The social class variables: 1990s. The 1990s literature shows educational and income levels continue to be commonly used as control variables and to replicate or approximate earlier research on differences in environmentalism in the general population. The same was not true, however, for occupational prestige. This section reviews a range of research in the 1990s that reports on relationships between concern for

environmental quality and either income, education, or both. I have not reported on the relationship between occupational prestige and environmental concern.

When Nord et al (1998) surveyed Pennsylvanians to examine linkages between forest recreation and environmentalism, they found significant regression coefficients for education on two models that measured environmental concern. Neither model showed income with a significant relationship to concern for environmental quality. When they looked at pro-environmental behavior, both income and education were statistically significant. Scott and Willets (1994) used a modified version of Dunlap and Van Liere's (1987) "new environmental paradigm" scale in a statewide survey in Pennsylvania and found those with higher levels of education and income to reject the idea (i.e., to be more pro-environment) that humans have the right to dominate nature and other forms of life. Income remained significant when partial correlations were computed, but education dropped to insignificant when other variables were controlled.

Similarly, Arcury and Christianson (1993) found a mix of differences in environmental world views, concern, knowledge, and actions by education and income when they surveyed a sample of Kentucky River Basin residents. Residents with higher education levels had higher (more pro-environment) scores on each of four measures of environmental world view and considerably greater global environmental knowledge than did their less educated counterparts. Income was positively related to the total NEP scale, and to two of the three subscales, and to global knowledge. Wall's (1995) research based on a survey of Canadian residents reported those with higher education levels had elevated levels of both general environmental concern, as well as concern about specific

issues and their associated trade-offs. Dietz and his colleagues (1998) used the 1993 General Social Survey to explore a conceptual framework that postulates several causal levels of environmentalism and several classes of variables. When a standard set of sociodemographic variables were tested, education (income and occupational prestige were not in the model), is associated with increased willingness to sacrifice, petition signing, environmental group membership, and support for government spending on environmental protection, but has no significant effect on consumer behavior.

Klineberg and his associates (1998) combined data from four biennial Texas-wide surveys in the 1990s and regressed eight demographic variables on each of twenty-one repeated measures of environmental attitudes. Reliable relationships across the different ways of measuring environmental concern were found for education. While income had some quite specific and delimiting effects, it was not found a trustworthy indicator of concern for environmental quality. Jones et al (1999), in a 7-state survey in Southern Appalachia, found that residents with higher household incomes and higher educational attainment tend to be more concerned about environmental issues than their respective opposites.

In sum, a conventional three-dimensional model that operationalizes social class with measures of education, income, and occupational prestige has limited utility in explaining differences in environmental concern. A weak argument can be made that social class is positively associated with concern for environmental quality. But what social class effects there are rely primarily on a consistent, albeit modest, relationship between education and environmental concern and, to a lesser extent, on income.

Race.

While considerable attention and analysis has been devoted to the social correlates of environmentalism (Van Liere & Dunlap 1980; Lowe et al 1980; Mitchell 1980; Lowe & Pinhey 1982; Mohai 1985; Mohai & Twight 1987; Jones & Dunlap 1992), it was not until the late 1980s and early 1990s that researchers began to study the relationship between race and concern for environmental quality more closely, an examination that assumes blacks will tend to show lower concern for the environment than their white counterparts. Several reasons are commonly cited for a supposed general black detachment from environmental issues. These include low levels of environmental concern among blacks, a lack of attention by mainstream environmental groups to issues affecting quality of life for black Americans, and racism in environmental organizations (Baugh 1991). This literature review, however, will focus on the emergence and development of several ideas that suggest that blacks, collectively, are less concerned about environmental quality than whites. I will not address with any specificity the negligible participation of blacks in the contemporary, mainstream environmental movement or a considerable body of literature on environmental justice/racism.

Theoretical explanations for racial (black/white) differences in environmental concern generally parallel explanatory frameworks for predicting social class differences in levels of concern for environmental quality. Notwithstanding a substantial body of environmental racism/justice literature that points to serious racial and ethnic biases pertaining to exposure to a range of environmental hazards (Kruvant 1975; Bullard 1983, 1990; Gianessi et al 1979; US General Accounting Office 1983; Commission for Racial

Justice 1987; Pinderhughes 1996; see also Cable & Shriver 1995; Capek 1993), there is a comparatively modest accumulation of empirical data on the environmental concerns of blacks. Following Mohai (1990), two theoretical accounts – one social psychological and one cultural – have emerged from what literature there is. Both generally assume that blacks are "less informed, less aware, and less concerned with environmental issues than whites" (Taylor 1989:179).

Applying Maslow's (1954) hierarchy-of-needs theory, Hershey and Hill (1977-78) argue that the generally lower socioeconomic status of blacks predisposes them toward meeting food, shelter, and physical security needs at the expense of any concern they might have about environmental quality. Lower SES groups, because they typically depend more heavily on jobs in polluting industries, are either prevented from defining pollution as a threat, or tend to prioritize employment programs ahead of programs to maintain or improve the environment. Since blacks are disproportionately represented in the lower social classes, they are less inclined to favor environmental protection. Similarly, Commoner (1971:206-209) makes a first-things-first argument, contending that black disinterest in environmental protection is at least partly explained by their generally limited economic wherewithal. Monetary and basic needs shortfalls all but extinguish environmental concerns because of an emphasis on more salient social needs that are more relevant to day-in, day-out survival. Other researchers (Bullard & Wright 1986, 1987; Pinderhughes 1996; Taylor 1989) have pointed out that black concerns and advocacy on more crying social issues, e.g., crime, education, and, especially, civil rights, have effectively bumped environmental quality issues to a bottommost position on black

political and economic priority lists.

Culture provides an alternative framework for explaining black-white differences in environmental concern. This argument postulates that it is differences in cultural property, i.e., sub-culturally different values and experiences between whites and blacks that explain differences in attitudes toward protection for the natural world and in levels of concern for the quality of the environment. Taylor (1989), for example, points to significant differences between nature myths inherited by whites and blacks. The mythology of nature derived from a set of Europe-based beliefs and ideology conjures an ancient image of the natural world as a garden from which humankind fell, a place of asylum from a corrupt world (but cf White 1967). Black Americans, on the other hand, have not inherited a story of nature that presupposes the idea of separate value systems for the social and natural worlds. Rather, blacks have an oral tradition that can engender fear of the forest and dampen any inclinations to enter that world, much less venerate or idealize it. Taylor also notes the historical effects of slavery, still in evidence more than a century after black emancipation (see Reingold & Wike 1998), and a heritage of the land as a place of humiliation and misery, rather than peace and fulfillment, have proscribed black chances to develop appreciative attitudes toward nature and the environment. And, Parker and McDonough (1999) have theorized that differential feelings of powerlessness may confound accurate assessments of black concern for environmental protection and help explain barriers to pro-environmental behavior in racial and ethnic minorities.

The race variable: 1970s. Hershey and Hill (1977-78) surveyed some 2000 black and white elementary and high school students (grades 2-12) in Florida. Their study

tested four hypotheses that predicted lower levels of environmental concern on the part of blacks based on different levels in socioeconomic status, formal education and exposure to information, exposure to pollution, and perceived political efficacy. They reported blacks were less likely than whites to view environmental quality as a serious concern, less likely to identify with environmentalist goals, and less likely to define pollution in complex terms. Racial differences remained when the effects of SES, education, exposure to information about pollution and pollution levels, and sense of political efficacy were accounted for. When Kreger (1973:31) surveyed 28 black college students, she found 25 who thought blacks had lower levels of concern over "ecological problems and goals," than did whites. That is, stronger and more continuous black concern over "personal survival forces" suppresses any concern they might have for environmental issues. And, Taylor's (1989) review of nearly 30 research efforts – primarily from the 1970s and primarily on nature-preservation issues – pointed to meaningful racial differences in environmental action and concern. Taylor suggested the black/white concern gap could be best understood by exploring the relationship between environmental concern and political action.

Cutter (1981), on the other hand, surveyed some 940 residents of 22 Chicago communities in1976 to assess the social and environmental influences on community concern for pollution. She found predominantly black Chicago neighborhoods to be most concerned about pollution, and further reported that concern for the environment was influenced by community characteristics, specifically neighborhood instability and housing quality, regardless of a neighborhood's racial composition. This suggests that it

is poor communities – be they predominantly black or predominantly white – with high population turnover, high density, low housing values, and a high percentage of apartment dwellers, that demonstrate higher levels of concern for environmental quality than do their more affluent opposites. In a comprehensive national environmental survey, Mitchell (1979:20) notes continued strong and enduring general public support for the environment. Among his many findings, the percentage of black "supporters of environmental protection at any cost" was virtually the same (55% black versus 54% white) as their white counterparts. Similarly, Jones and Dunlap (1992) found statistically significant, albeit very modest, differences in bivariate correlations that showed non-whites with higher levels of environmental concern than their white counterparts for three of the six years in the 1970s for which they had data.

The race variable: 1980s. In the 1980s, Mohai's important (1990) study is perhaps the most thorough treatment of black/white differences in environmentalism. In his examination of a nationwide US Department of Agriculture data set (Fischer et al 1980), Mohai analyzed three indices of environmental concern, several aspects of environmental activism/participation, a range of environmental issues (e.g., soil conservation, toxic waste, and wildlife preservation), and a "knowledge of government" variable. When standard SES indicators – income, occupational status, and education – were controlled, Mohai reported no overall difference in levels of concern for blacks and whites. When blacks and whites were compared as a whole, there were no statistical differences in any of three concern indicators. When blacks and whites were compared by socioeconomic categories, a few differences did surface. In the cases where

differences are statistically significant, concern scores for blacks are higher than for whites four out of seven times. In sum, neither the hierarchy-of-needs nor the subcultural explanation for racial disparities in levels of concern for environmental quality were supported.

Mohai (1990) did report, however, significant differences between blacks and whites on each of two environmental activism indicators, both prior to and after applying multivariate controls. While blacks were generally as politically active as whites, they were significantly less likely to be active with regard to environmental issues. Mohai noted that concern is significantly related to action, but the differences in participation rates between blacks and whites are not attributable to differences in levels of concern. Neither are these rates accounted for completely by SES and knowledge of government. This suggests that the political activism differential may either be due to structural barriers that frustrate black/white interaction (Bullard & Wright 1989; Taylor 1989) , relative differences in resources available to blacks and whites (see also Kreger 1973, Bullard & Wright 1989), or to the degree to which a particular issue has race-specific salience.

In their review of the social bases of environmental concern over time, Jones and Dunlap (1992) found bivariate correlations generally insignificant and inconsistent during the 1980s. When correlations were statistically significant (1980, 1982, and 1986), they showed non-whites to be slightly more concerned than whites, contrasting with earlier conclusions drawn by Hershey and Hill (1977-78) and Taylor (1989). Kellert (1984a, 1984b) examined racial differences in attitudes about animals and found that, among

children and adults, blacks exhibited more exploitative and negative attitudes toward animals than their white counterparts, implying a lower level of concern for environmental quality. Kanagy et al (1994), in their examination of GSS data from the 1980s, used race as a general control variable. They found no significant black/white differences in environmental concern, but noted the data implied blacks might be more inclined to support increased spending to protect the environment than whites.

Jones and Carter's (1994) assessment of the common premises of black environmentalism further challenged the assumption idea that blacks have little or no interest in environmental issues. After analyzing NORC data for the years 1973 to1990 (excepting 1979 and 1981, when NORC did not conduct a GSS), they reported negligible racial differences in concern for environmental quality and protection throughout this period. Their data show that blacks consistently – for 14 of the 16 years reported – actually show more support for spending money on environmental protection than their white counterparts, and for seven of those years the differences were statistically significant. It was only in 1990 that white support for environmental spending was significantly higher than their black counterparts. Interestingly, the most sizable racial variations were reported for the late 1970s and early 1980s, a period that saw white support for environmental spending soften as the nation's economy slumped. Jones and Carter's (1994) study does point to differences in the black/white political activism in some types of environmental causes, differences in environmental concern relative to other kinds of concerns, and to differences in the salience that blacks and whites attach to specific types of environmental risks. But, on balance, black concern for the environment

seems just as strong, if not stronger, than that shown by white Americans.

The race variable: 1990s. Jones (1998) employed NORC GSS data from 1973 to 1993 (there were no NORC GSS surveys in 1979, 1981, or 1992) to test four hypotheses bearing on racial differences in concern for environmental quality. The *whites only hypothesis*, which posits black white differences in general environmental concern when concern about the environment is isolated from other major public concerns, had no support. This was also the case for the *concern gap hypothesis*, which is based on fluctuations in the patterns of support for environmental protection by each group over time. Of the 18 years analyzed, whites were more supportive than blacks only in 1990 and 1991, and the difference in mean scores reached statistical significance only in 1990. Blacks posted greater average scores on support for national funding for environmental protection in 15 of the 18 years, with statistically significant differences occurring in seven of those years. Each group showed some variation in support from their respective historical averages over time. In sum, however, the data show both groups with strong levels of concern for the environment, and that an environmental concern gap, if it ever existed, no longer does.

The *economic contingency hypothesis* (see Jones & Dunlap 1992) is based on the assumption that periodic advances or declines in public concern for the environment are linked to a range of economic indicators. More specifically, it posits that economically vulnerable groups (e.g., women, low income households, people of color) will disproportionately draw back their support for environmental protection during hard economic times when compared to their more affluent opposites. Jones (1998) reviewed

mean scores for blacks and whites over time (1973-1993), comparing each group's average during five economic recessionary periods (1975, 1980, 1982, 1991, 1992) against the overall historic mean for the entire period. Overall, he found that support for national funding for environmental protection declined (on average) for both groups in 3 of the 5 recession periods, but did not decline significantly more for blacks than whites in any of the 5 recessionary years (but, cf Elliot et al 1995; see also Jones & Carter 1994). This undermines the assumption that groups particularly prone to economic vulnerability will disproportionately withdraw their support for environmental protection during hard economic times.

Jones (1998) found appreciable support for the *social priority hypothesis*, a modification of the concern gap hypothesis that is based on the relative environmental concern argument. Simply put, this argument presumes blacks and whites prioritize their concern for environmental quality differently. His analysis and review of prior research point to somewhat higher levels of environmental concern relative to other concerns on the part of whites. Blacks, on the other hand, show less concern for environmental issues when compared to certain social and domestic issues. This finding is consistent with past research linking concern to action (e.g., Mohai 1990; Kim & Hunter 1993), and Bullard and Wright's (1989) suggestion that limited or stretched resources of blacks are best harnessed to environmental issues via existing civil rights agendas of established social action organizations in black communities.

Klineberg and his colleagues (1998) combined data from four biennial Texas-wide surveys (1990, 1992, 1994, 1996), regressing eight demographic variables on each

of twenty-one repeated measures of environmental attitudes across several indices of measuring environmental concern. They reported blacks significantly less concerned than whites when environmental concern was measured using economy/government regulation trade-offs, but no statistically significant black/white differences on three other indices.

Adeola (1994) surveyed some 200 respondents in Baton Rouge, Louisiana in a study of hazardous waste and associated health problems. He reported that, while blacks are more likely to live near hazardous waste facilities, their level of environmental concern was no different than that for whites. Race, then, was not found to be a significant factor in explaining environmental concern and attitudes. Johnson et al (1997), in an exploratory study, sampled census tracts in six counties around the Apalachicola National Forest in Florida. When they examined differences in wildland visits and meaning, they found race (along with sex and age) to be significant predictors of both wildland meaning and visitation. Rural blacks reported fewer visits and had less favorable impression about wildlands than rural whites. This finding supports earlier, urban-centered, research on racial disparities, e.g., Philipp (1993), and Kaplan and Talbot (1988), and suggests that a so-called wildland aversion of urban blacks may generally hold for rural blacks, as well. Jones et al (1999) examined rural and urban environmentalism in Southern Appalachia and found racial/ethnic differences in several cognitive and behavior indicators of environmentalism, reporting that (non-Hispanic) whites placed significantly higher priority on environmental protection than their non-white counterparts.

Traditionally, examination of black environmentalism is based on black/white

differentials (Mohai 1990; Jones & Carter 1994; Baugh 1991; Bullard 1993; Jones 1998; Taylor 1989; Jones et al 1999). But a comparison with whites is only one way to research black concern for environmental quality, and can theoretically and methodologically restrict measurement of environmental concerns and activities most relevant to blacks. Arp and Kenney (1996), for example, examined general and local levels of environmental concern of two black communities in Louisiana, each of which had posed against them different environmental threats. This departure from most previous research essentially reprises Van Liere and Dunlap's (1980) suggestion to disaggregate the particular from the general (see also Wall 1995), and apply it to black communities. Arp and Kenney report that specific local concerns and activities depend in part on the nature of the threat from nearby industry, but that more general attitudes toward the regulation of industry and concern about the environment do not. In other words, black concern for environmental quality is theoretically a function of black interests, and so may vary to the degree of prominence an environmental issue has in the community.

In sum, race is a poor predictor of concern for environmental quality. The cumulative evidence suggests blacks and whites are equally protective of the environment, although each group may pay more attention to particular environmental problems. Jones (1998:224), for example, notes that people of color seem more concerned about health and safety effects linked to nuclear and toxic wastes, while whites seem more sensitive to climate change and ozone depletion issues. Blacks do seem relatively more concerned about social issues than environmental ones, but it is a *non sequitur* to argue this implies little or no concern for the environment on the part of black

Americans.

Residence.

An examination concerning the residence-environmental concern relationship focuses on rural–urban differences in concern for environmental quality. Researchers typically begin with a hypothesis that assumes urban residents are more environmentally concerned than rural residents for several reasons: levels of exposure to environmental degradation, a utilitarian view of nature, culture, economic growth, or place of socialization.

Tremblay and Dunlap (1978) argue urban residents should be more prone to be pro-environment because they are disproportionately exposed to more types of pollution, higher levels of pollution, and to a larger variety of other types of environmental degradation than urban residents. Second, given their relatively heavy involvement with extractive lines of work such as farming, logging, and mining, rural dwellers are more likely than those in urban areas to have a utilitarian-based relationship with the natural environment, which produces lower overall levels of environmental concern. This part of the argument presumes occupation (extractive vs. non-extractive), because of different levels of direct dependence on the economic use of the natural environment, serves as an in lieu of variable for residence. A corollary to the extractive occupations explanation, when extended to rural residents who are not engaged in such occupations, argues that even they will share this utilitarian view toward the environment because of a shared rural culture. Murdock and Schriner (1977) suggested that, since economic growth is

necessary for survival, small towns will value growth over environmental protection. The pro-growth explanation uses economic development as a proxy variable for the utilitarian view towards nature found in rural areas and small towns (cf Molotch 1976). Lowe and Pinhey (1982) add to this number of competing explanations. They hypothesized that place of socialization (metropolitan vs. rural) is key in explaining rural-urban differences in environmental concern, and that metropolitan residents will tend to more favorably consider social solutions to environmental problems.

The residence variable: 1970s. There is some support that, in the 1970s, urban residents were more environmentally concerned than their rural opposites. Positive relationships between urban residence and public concern for environmental protection were reported by Van Liere and Dunlap (1981), Althoff and Greig (1977), Tremblay and Dunlap (1978), and Buttel and Flinn (1978a, 1978b). Also, Jones and Dunlap's (1992) longitudinal review and analysis of national data sets of support for spending on the environment found urban residence at age 16 to be consistently and significantly, albeit modestly, related to concern for the environment throughout the 1970s. On the other hand, additional examinations of the residence-environmental concern relationship pointed to the contrary. Lowe and his associates (1980), for example, found no differences between rural and urban residents in their concern for environmental quality. Milbraith (1975), reported no differences in levels of environmental concern between two counties that were appreciably dissimilar in their levels of industrialization.

In a number of studies, researchers explored multiple measures of concern for environmental quality. There was considerable variation in the magnitude of correlation

coefficients both between and within studies, suggesting that the relationship between residence and concern for the environment may depend substantially on the indicator being examined. (Van Liere & Dunlap 1978; Buttel & Flinn 1974, 1976; Tremblay and Dunlap 1978). Buttel and Flinn (1974), for example, examined two state-wide Wisconsin surveys and found little or no relationship between environmental concern and residence. Buttel (1975), reported a non-significant rural-urban difference in environmental concern that was also in the wrong direction, i.e., rural residents were actually slightly more concerned than urbanites, even though the difference was statistically insignificant. Others have proposed that residence is a better predictor of environmental concern when local, rather than state or national, environmental problems are the focus of attention (e.g., Tremblay and Dunlap1978).

The residence variable: 1980s. In the 1980s, research continued to furnish mixed results bearing on predicted rural-urban differences in environmental concern. Lowe and Pinhey (1982) used data from the 1973-1978 General Social Surveys to test several hypotheses of four mid-range explanations (environmental deprivation, utilitarian view of natural resources, pro-growth orientation, and size of place of socialization) of rural-urban differences in support for environmental protection. They found considerable support that size of one's place of socialization, i.e., residence at age 16, was a stronger predictor of environmental concern than the size of current place of residence, with people socialized in metropolitan areas having higher mean environmental support scores than people socialized in rural or urban areas. Overall, however, they found none of the proposed explanations adequately addressed rural-urban differences in concern for

environmental protection.

In an examination of changes of the environmental coalition in the 1980s, Howell and Laska (1992) used a question about environmental spending from the 1980, 1984, and 1988 presidential election surveys in Michigan. Their findings showed urban residence a significant predictor of being supportive of additional spending in 1984 and 1988, and that urban residence increased its predictive power between 1980 and 1988. Jones and Dunlap (1992) found residence at age 16 to be positively and significantly correlated with support for spending on the environment throughout the 1980s. Freudenberg's (1991) study of four rural communities in Colorado found high levels of overall concern for environmental quality, with persons in agriculture (farmers and ranchers) in rural areas expressing higher levels of concern for the environment than did other rural persons in those same communities. Freudenberg's findings point to differences between, as well as within, rural communities about concern for environmental quality, thus re-raising methodological questions about how we conceptualize and measure environmental concern (see also Buttel & Johnson 1977; Van Liere & Dunlap 1980, 1981; Klineberg et al 1998).

The residence variable: 1990s. In a study of longitudinal data from the biennial Texas Environmental Survey in 1990, 1992, 1994, and 1996, Klineberg and his colleagues (1998), using size of town as a rural-urban indicator, found an absence of significant effects for rural and urban residents over a wide range of environmental issues across four different measures of environmental concern. In their study of Canadian residents, Lutz and her associates (1999) found rural and urban residents both expressed

pro-wilderness attitudes and a high degree of concern for environmental quality. They noted also, however, residence had an effect on how urban and rural dwellers responded to photos used in the survey to depict wilderness areas, i.e., the two groups perceived the same environment differently. Arcury and Christianson (1993) surveyed eastern and central Kentucky residents, using place of residence (rural, urban-nonmetro, and urban-metro) as the primary independent variable to look for differences in environmental concern, world view, knowledge, and action. They reported some statistically significant differences in environmental world view and actions. There was no difference among the residence groups, however, in total environmental concern nor were there any differences in any of several individual environmental concern items. Overall, they concluded the relationship between rural-urban residence and the environmental accounts is of little consequence. Jones et al (1999) tested for rural-urban differences on several cognitive and behavioral indicators (knowledge, concern, relative concern, personal behavior, and activism) of environmentalism. While bivariate correlations indicated that rural residents were significantly more pro-environment on several indicators, the relationships were weak and vanished when the effects of other demographic variables were accounted for.

Fortmann and Kusel (1990) used data from a survey of residents of communities near two national forests and found little support for the hypothesis that residential status affects forest management attitudes, dissatisfaction, or action. Instead, they offer a "new voice" thesis that argues a general greening of America (cf Dunlap 1987) has thinned out many differences in rural and urban environmental values. New migrants to rural areas, rather than importing a new set of pro-environmental values, bring a previously missing

voice that gives re-articulation to already existing environmental values in rural areas. Jones and his colleagues (1999) also suggest that recent in-migration may help explain the absence of rural-urban differences in support for environmental values in their study. A number of other studies (e.g., Rudzitis & Johansen 1991; McBeth & Foster 1994; Nord et al 1998) point to a diminished or all but disappeared gap in rural-urban differences in environmental concern.

In sum, while early studies on the social bases of environmentalism generally indicated a modest, but real, difference in concern for environmental quality between urban and rural residents, recent research implies that may no longer be true. Chapter III looks at a body of migration research and the effect demographic shifts, particularly the continuing renaissance in non-metropolitan America, have had on narrowing the rural-urban environmental concern gap, and on rising support for environmentalism in many rural communities.

Summary: The social correlates of environmentalism.

Environmental sociology does not have a wide consensus on a theory or set of theories that explain variation in levels of concern for environmental quality. A review of the environmental concern literature makes evident that much past and ongoing research aimed at explaining, generalizing, and predicting public support for environmental issues tends to be descriptive and theoretically ambiguous. Such research typically assumes that social and demographic variables provide the basis of support for environmental issues. Yet, powerful and well developed research methods have had only limited success in

clearly identifying correlates of environmental concern.

Age has consistently been the single best predictor of environmental concern. The finding that the young are routinely more environmentally-minded than their older counterparts has been constant since at least the 1970s. Those with a *liberal political ideology* also are relatively consistent in their support for environmental issues, when compared to political conservatives.

Residence, particularly at an early age, and *education* have also been shown to be relatively reliable indicators of environmental concern. Early research suggested urban residents, more so than rural residents, tended to be more concerned about environmental quality, but a growing body of more recent research shows that rural-urban differences may be dissolving.

Social class and *income* have not been reliable indicators of concern for the environment, with research producing a mix of inconclusive results. *Occupations*, as they are related to economic sectors and class, are a complex and fairly heavily researched area that likewise has delivered mixed and indefinite results.[5] Evidence of *gender* differences in levels of concern for the environment are likewise inconclusive. Differences do appear along gender lines where local environmental threats to health and safety are the problems but overall even these differences are modest. There is relatively little empirical data on *racial* differences in concern for environmental quality, which is

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[5]However, the relationship between newer middle class occupation (e.g., such as information technology and other computer related skills) and environmental concern is not well researched.

Findings regarding occupations in agriculture, resource extraction, and polluting industries are not conclusive, although early research pointed to workers in "extractive" occupations as less environmentally concerned. More recent research points to a possible pro-environmental shift in people working in resource extraction and related occupations.

striking in light of a substantial body of literature that points to racial/ethnic biases in the incidence of a number of environmental hazards. Early research resulted in contradictory findings, pointing to both lower and higher levels of environmental concern on the part of blacks when compared to whites. More recent research, however, indicates a gap between the races in concern for environmental quality does not exist.

Conclusion.

We have seen that early and ongoing research to isolate variables in the social structure that predict concern for the environment has give us some reliable, but weak, associations. Overall, there has been limited progress in accounting for variation in concern for environmental quality. Nonetheless, it is clear that sociodemographic variables have a key place in explaining differences in levels of concern for environmental quality, especially when joined with larger, structural variables we can link to changing environmental values. Chapter III reviews a body of literature that examines a fundamental shift in migration patterns that occurred in the United States over the same span of time that encompasses contemporary research on the social bases of environmentalism.

III
RURAL-URBAN MIGRATION PATTERNS, 1970-2000

Comparisons and disparities in rural and urban environments have been of interest to sociologists at least since Durkheim (1893) distinguished between mechanical and organic solidarity and Ferdinand Tonnies' (1887) exposition of the *gemeinschaft - gesellschaft* dichotomy. These terms connote particular conditions and consequences of social organization in two types of societies (cf Simmel 1903; Wirth 1938). Social cohesion results either from similarities (mechanical solidarity/*gemeinschaft*) or from complementary differences (organic solidarity/*gesellschaft*) in social relationships, norms, and values. While the conceptual contrasts embedded in these *ideal types* (Weber 1922) are still instructive and may have been more appropriate at the turn of twentieth-century America, such a model seems too simplistic and less sociologically relevant today (Flora et al 1992; Freudenburg & McGinn 1987). The integrative features of modern transportation, information, and economic systems all act to complicate and perhaps diminish political, economic, and cultural differences between city and country (see also Inglehart 1997).

Disappearing differences in rural-urban environmental values?

The previous chapter documented research on the social correlates of environmentalism in the United States that historically has shown urban residents are more concerned about the quality of the environment than their rural counterparts. A

good portion of early environmental concern studies found that urban residents were more concerned about environmental problems and more supportive of environmental protection than rural residents (Van Liere & Dunlap 1980, 1981; Altoff & Greig 1977; Buttel & Flinn 1978a, 1978b; Lowe & Pinhey 1982). More recent research suggests residence has little or no effect in accounting for environmental concern (Jones et al 1999, 2001; Klineberg et al 1998; Arcury & Christianson 1993; Nord et al 1998; Lutz et al 1999; Willets et al 1990; see also Mohai & Twight 1986). These more recent studies point to a closing of the rural-urban gap in environmental concern and a rise in public support for environmental values in America's rural places that has occurred since about the mid to late 1980s. A growing body of research suggests that increasing in-migration to rural areas may be a key variable in explaining the apparent fading differences between rural and urban environmental values.

The remainder of this chapter briefly reviews historical migration patterns in the United States and summarizes the literature that documents the shift of the rural-urban migration pattern. We also review theoretical explanations that address changes in population growth patterns and examine the emerging research on amenity migration that grew out of the population redistribution of rural America between about 1970 and 2000.

Historical domestic migration patterns in the United States.

Migration connotes the more or less permanent relocation of individuals or groups across political or symbolic boundaries into new residential areas or communities (Frey 1996). The causes and consequences of migration are an integral part of the twentieth-

century American experience (Goldstein 1976; Schwarzweller 1979; Fuguitt 1985; Johnson 1999) and, historically, have been dominated by urbanization and metropolitan growth at the expense of non-metropolitan areas (Johnson & Beale 1999).

For most of the twentieth century, demographic changes in rural America were well-defined by two seemingly immutable trends – natural increase (surplus births over deaths) that accounted for virtually all population growth in non-metro areas, and out-migration from rural areas that far outstripped in-migration to those areas (Morrison & Wheeler 1976; Fuguitt 1985; Johnson 1993). The resultant trend in rural America was one of very slow population growth due to small natural increases that barely exceeded net migration losses. These small population gains periodically fluctuated, but were consistent enough over time to be taken as a given (Fuguitt et al 1989); as Schwarzweller (1979) had pointed out earlier, the one hundred year old rural-to-urban migration flow had become an institutional feature of rural life in America (see also Schwarzweller et al 1971). By the 1950s the propagation of urban development and the creep of "rows and rows of houses" (Nelson & Young 1982:3) into the surrounding countryside – suburbanization and urban sprawl – was well underway (Campbell & Garkovich 1984). The prevailing wisdom through the 1960s – population would continue to converge in and around large cities and to decentralize within commuting distance of these population centers – went unchallenged (Fuguitt 1985; Fuguitt & Beale 1996). Then, in the 1970s, a "rural renaissance" unexpectedly emerged, distinguished by movement from urban to rural areas (Stankey 2000:16; Schwarzweller 1979; Morrison & Wheeler 1976).

The rural renaissance in America.

"Rural renaissance" refers to the last three decades of the twentieth century during which the historical rural-to-urban migration pattern unexpectedly changed, shifting away from increasing rates of urbanization and toward increased population growth in small towns and rural places in the United States (Beale 1975, 1977; US Census 1973; Morrison & Wheeler 1976; Fuguitt 1985; Blahna 1990; Frey & Speare 1992; Johnson 1993, 1999; Johnson & Fuguitt 2000). The 1970s marked the first time since the 1880s that population growth rates for rural areas were higher than for urban areas (Daniels 1999; Jones et al 2001). As evidence of the changing migration pattern mounted, the "gloomy language of rural depopulation" (Schwarzweller 1979:7) began to dissipate, supplanted by language more symbolic of vibrancy and excitement. The historic change in the migration flow came to be expressed in a number of ways – rural renaissance, reverse migration, the back-to-nature movement, turnaround migration, rural revival, and the rural-urban turnaround – that suggested a rebirth of rural America. (Morrison & Wheeler 1976; Fly 1986; Fulton et al 1997; Berry 2000). Taken in the aggregate, these indicators pointed to the possibility of a virtually permanent reversal of the historical pattern of migration and a potentially significant redistribution of the population in the United States (Price & Clay 1980; see also Wardwell 1977; Beale 1975b).

We discuss the rural renaissance in three decade-long periods, i.e., the initial *turnaround* period of 1970-1980, the *reversal* period of 1980-1990, and the *rebound* period of 1990-2000. Each of the shifts were unanticipated (see Johnson & Fuguitt 2000; Fulton et al 1997).

The turnaround: 1970-1980. The first signs of change contrasted substantially with nearly a century of previous research. In their analyses of post-1970 census data, the US Bureau of the Census (1973) reported that non-metro areas were growing more quickly than metro areas, and that more people were moving from metro to non-metro areas than in the opposite direction (Fuguitt 1985; Fuguitt & Beale 1974; Daniel 1999). The deviation from the past pattern precipitated considerable popular interest and speculation, as well as extensive research to document further evidence of the turbulence in the demographic processes of small-town and rural America (e.g., Fuguitt & Beale 1978; Humphrey et al 1977; Tucker 1976; Schwarzweller 1979).

The onset of the new population redistribution trend of the 1970s – the rural-urban turnaround – appeared as a bolt from the blue for demographers, rural sociologists, economists, and geographers alike (Berry 2000; Johnson 1993; Fulton et al 1997). As noted above, surprises included generalized and sizable net in-migration to rural areas (US Census 1973; Beale 1975a; Fuguitt 1985), and a sharp reduction in natural increase (fertility) in non-metro areas (Fuguitt et al 1991a).

Early studies were aimed at describing and characterizing the extent of the turnaround, and focused primarily on the reversal of long-term migration trends. Beale's (1975a) widely read and frequently cited national study established that the historically predominant rural-to-urban population movement in the United States was beginning to reverse course. Migration rates to non-metropolitan areas increased dramatically in the late 1960s, with growth areas spreading appreciably by 1975. Following up his benchmark study, Beale (1977; see also Tucker 1976) found net population gains for non-

metro areas between 1970-1975 totaled about 350,000, compared to the dominant trend in the 1960s that showed a non-metropolitan net population loss of some 300,000.

Similarly, Morrison and Wheeler (1976) found that the non-metropolitan population growth trend was pervasive. For example, in each year between 1970 and 1975, for every 100 people who moved to metro areas, 131 had moved out; for the previous five-year period, for every 100 who move to metro areas, 94 had moved out. And, across America many large metropolitan areas, e.g., New York, Chicago, Cleveland, Seattle, and Los Angeles, had stopped growing altogether (see also Goldstein 1976; Tucker 1976). Conversely, seventy five percent of all non-metro counties registered population gains for the period 1970-1975, compared with fifty percent in the 1960s and only forty percent in the 1950s.

A number of smaller scale studies were consistent with Beale's (1975a, 1977) and Morrison & Wheeler's (1976) national-level findings. Fly (1986), for example, reported that the new trend in nationwide findings were generally corroborated by regional analysis from the upper Midwest (Voss & Fuguitt 1979, the Northeast (Ploch 1977), the South (Campbell et al 1977), and the Southwest (Mitchell 1975). Champion (1989) reported similar findings in his study of the changing pace and characteristics of the counter-urbanization trend in Europe (see also Forsythe 1980).

Signs of a shift in Americans' residential preference also began to surface just prior to the 1970s. Tucker (1976) reported national public opinion polling from the late 1960s to the mid 1970s reflected an increasing preference for small town or rural residence to metropolitan living (see also Fuguitt & Zuiches 1975). While jobs remain an

important factor in the direction of migration streams (Frey & Speare 1992; Fulton et al 1997), studies of migration destinations in the 1970s began to show employment opportunities were no longer the sole attraction for migrants (e.g., Morrison & Wheeler 1976; Fuguitt & Zuiches 1975). Factors such as retirement, hunting and fishing, and availability of recreational and natural amenities became increasingly important (DeLind 1978; DeJong 1977).

The reversal: 1980-1990. The 1980s brought a "collective sigh of relief" (Rudzitis & Johnson 2000:19) to all those taken by surprise by the rural-urban turnaround of the 1970s because migration figures largely conformed to historical rural-to-urban population movement. The 1980s saw overall growth in rural areas slow substantially, with large out-migration noted among the young, the better educated, and workers employed in white collar occupations. The majority (approximately 55%) of America's non-metro counties lost population during the 1980s. The remaining non-metro counties posted smaller gains on average in the 1980s than in the 1970s. Both the extent and magnitude of these increases were significantly smaller than for the 1970s turnaround decade (Johnson 1993; Fulton et al 1997).

The rural-urban migration turnaround of the 1970s followed by the reversal of the 1980s raised the question of whether the 1980s decade was the first stage of a reversion to the historical pattern or simply a pause in the renewed growth rates for rural areas. In an analysis of US decennial population censuses for 1950, 1960, 1970, 1980, and 1990, Johnson (1993) argued that the 1980s demographic trend was neither a repeat of the 1970s turnaround nor a reversion to historical migration flow patterns. Instead, the

demographic trends of the 1980s included a shrinkage (not a true reversal) in non-metropolitan population gains and small net migration losses. On the other hand, Frey and Speare's (1992) assessment of the 1990 census argued that the substantial drop in non-metro growth rates during the 1980s indicated a continuing preference among residents to work and live in a large metropolitan area and marked a general return to traditional urbanization patterns. Fuguitt et al (1991a) found that a renewed convergence between fertility rates in metro and non-metro areas in the 1980s made an important contribution to the turnaround reversal of the1980s, as well.

Overall, non-metropolitan population for the 1980s decade was up only 3.7 percent, all of it due to natural increases that offset a small (1.7 %) migration loss (Johnson 1993) for the ten year period. The significant slow down in population growth rates in non-metropolitan America of the 1980s is largely attributed to a broad, decade-long economic decline (Johnson & Beale 1994). When population increases in non-metro counties were documented, they were concentrated in several areas – the South and West, as well as in retirement, scenic, and recreational areas of New England, the Great Lakes, and the Ozarks (Johnson 1993). In addition to drawing retirement age migrants, many retirement destinations retained most of their younger population and may have attracted younger migrants, as well (Fuguitt et al 1988). On balance, however, the reversal looked like the familiar historical pattern of rural-to-urban migration. It seemed that past had again become prologue.

The rebound: 1990-2000. In their analysis of post-1990 national census data, Johnson and Beale (1994) compared growth patterns in non-metro areas in the 1980s with

those during the early 1990s. Their comparison showed an early 1990s renewal of non-metro growth was widespread geographically and argued that a significant upturn in non-metro growth was probably underway. Many counties that began to grow again in the early 1990s after losing population in the 1980s either had participated in the initial 1970s turnaround or had long prior histories of growth. By the end of the 1990s, Johnson and Beale (1999) reported that population growth rates in non-metro areas had rebounded from the reduced levels of the early 1980s. The reestablished population rebound was due primarily to increased migration to selective counties. It is lower density, environmentally rich places, wilderness communities, recreation and retirement destinations beyond the metropolitan periphery, and diversifying manufacturing, service and commuting areas along the metropolitan fringe (see also Rudzitis 1996, 1999; Daniel 1999; Rudzitis & Johnson 2000).

Overall, three-fourths of non-metro counties grew and two-thirds experienced net in-migration in the 1990s. Extending a long trend, non-metro counties linked to extractive industries continued to shed jobs and population (see also Freudenburg 1992; Jones et al 1999, 2001; Marcouiller & Green 2000).

Summary. Researchers have documented three distinct unpredicted shifts in metro/non-metro population change and migration in the past thirty years. The first, the rural-urban turnaround of the 1970s, was characterized by a remarkable shift of long-term migration trends. Substantial and widespread population gains in rural areas were fueled primarily by net in-migration gains (Fuguitt 1985; Johnson & Beale 1994; Wardwell 1988). The second, the 1980s reversal period, saw a slow down of non-metro growth and

an apparent return to a population distribution flow that closely resembled the historical pattern (Fulton et al 1997; Johnson 1993; Frey & Spear 1992).[6] Then, the post-1990 period saw rural America rebound to its fastest growth rate since the original 1970s turnaround. By the early 1990s the tendency toward greater retention in and/or migration of people to small towns and rural areas was clear (Fuguitt & Beale 1993), a trend that continues today (Rudzitis 1999; Johnson & Beale 1999; Berry 2000; Daniel 1999; Rudzitis & Johnson 2000). Both the 1970s and the 1990s are exceptions to the historical pattern of net out-migration from non-metro areas (Johnson & Beale 1999). Taken in toto, the phenomenon is both unprecedented and suggests an overall rural renaissance.

Theory and the rural renaissance.

Given the importance of non-metropolitan population trends to the development of theoretical models and to public policy and planning, the rural-urban turnaround phenomenon continues to be of appreciable empirical interest (Johnson & Beale 1994, 1999; Frey & Speare 1992; Johnson 1993; Fulton et al 1997; Berry 2000; Frey 1996; Johnson & Fuguitt 2000; Jones et al 2001; Blahna 1990; Fortmann & Kusel 1990). The sometimes dramatic changes that have accompanied migration-driven shifts in population distribution are affecting the human dimension of environmental management (Daniel 1999; Manfredo & Zinn 1996; Stankey 2000; Smith & Krannich 2000; Ewert 1996), social equity and value frameworks for environmental issues (Warren 1994; Naess 1973;

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[6]In retrospect, the 1980s reversal period appears to have been a pause or temporary interruption in a new population distribution trend (see Fulton 1997; Beale and Fuguitt 1990, 1996; Lichter 1993, USDA 1995; Shumway & Davis 1996).

White 1967; Nash 1989, Cable & Cable 1994; Dunlap & Van Liere 1978; Devall 1984; Stankey 2000), and local economies and regional development (Rudzitis & Johnson 2000; Clark & Cosgrove 1991; Marcouiller & Green 2000; Achana & O'Leary 2000; Smith & Krannich 2000). It is clear that the escalation in empirical activity prompted by the extraordinary 30-year migration turnaround phenomenon have important theoretical and policy implications (Johnson & Fuguitt 2000; Johnson & Beale 1994; Johnson 1993; Fortmann and Kusel 1990).

Alternative theoretical frameworks. Frey (1987, 1990, 1993) has reviewed three broad categories of established theoretical perspectives – period effects, deconcentration, and regional restructuring – that each offer a partial explanation for the 1970s turnaround, but predict different outcomes for non-metro areas into the 1980s and beyond (see also Frey & Speare 1992). To some extent, each is based on a human ecology position on migration, which argues changes in population happen as a result of previous events, typically a change in the organizational structure of system (Hawley 1986; Frisbie & Poston 1975; Poston, Frisbee & Micklin 1984; Fulton et al 1997). In this perspective, population does not act independently but reacts to systemic changes such as the replacement of labor with capital in agriculture, deindustrialization, regional shifts in employment opportunities, or improvements in communications and transportation infrastructure (Johnson 1993). In other words, populations organize themselves around sustenance activities – e.g., manufacturing, agriculture, or government service – to provide the necessities of life.

Period explanations are based on external stimulus to the system. The *period*

effects perspective attributed the rural-urban turnaround to the extraordinary economic and demographic circumstances of the 1970s. For example, the related effects of oil shortages, an energy crisis and economic recession adversely affected large Northern metropolises with high energy costs, but favored the South and West where oil and natural resource exploration was stimulated. Added to the energy and economic crises of the 1970s, were the impacts of the baby boom on small college towns and the rising numbers of elderly moving to non-metropolitan retirement destinations. The period effects argument maintains these are unique, temporary effects that caused the original rural-urban turnaround of the 1970s. During the 1980s there were two economic recessions, a general drop in energy and some commodity prices, and falling prices for agricultural goods that led to the "farm crisis" (Shumway & Davis 1996:516; Frey 1993). Cumulatively, these unique factors led to the reversal of the counter-urbanization trend of the 1970s (Frey 1987, Fuguitt 1985).

The *regional restructuring* perspective assumed the turnaround trend of the 1970s was due to a broader industrial restructuring of the American economy and globalization processes increasingly dominated by multinational corporations (MNCs). Conceptually, these changes are a result of an increasingly linked global economy (Plane 1989; Frey 1993). MNCs are increasingly able to take advantage of rapid advances in transportation and information technologies that have created new patterns of population growth and contraction in selective areas, as well as a new "geography of employment opportunities" (Shumway & Davis 1996:516). This model postulates the re-emergence of urbanization in those locations that successfully reorient their economies toward activities like high-

tech research and development and advanced information services.

The *deconcentration* perspective looked at the turnaround as a clear break with the historical pattern of population distribution in America. While the period effects and restructuring perspectives center on economic production, deconcentration explanations focus on residential and consumer preferences (Frey 1993, 1987). Deconcentration frameworks argue that a loosening of technological and economic constraints has freed up increasing numbers of people to fulfill widely held preferences for low-density, high-amenity locations. The "knowledge workers" (Shumway & Davis 1996:517) of post-industrial societies are no longer tied to urban areas because of an increasingly mature "telematics infrastructure" (Dillman 1991:292) that gathers computer, broadcast media, and telecommunications technologies into a single nexus for developing, sending, receiving, sorting, and using information. Deconcentration explanations suggest long-term growth for many small towns and rural locales at the expense of the urban metropolis. More and more, the information age is opening access to rural areas by changing the rules on who can produce what from where (see also Wardwell 1977, 1980; Dillman 1979; Kenney et al 1989; Cleveland 1985).

There is a fair amount of controversy, however, on how well these time-honored perspectives fit the rural-urban turnaround years. Frey (1987), for example, initially concluded that the deconcentration framework best explained the demographic trends of the 1970s and early 1980s. He later reversed himself, in light of census data from the 1990s (Frey 1993), finding that the migration patterns were best explained by combining period effects models and restructuring arguments. Subsequently, Frey (1995) argued

that, in retrospect, the 1970s turnaround was an aberration in the historical pattern of migration flow, attributable of an assortment of period-specific effects.

Johnson and Beale (1994) pointed out that conclusions derived from period, deconcentration, or restructuring perspectives depend heavily on the decade being studied, and there is a lack of consensus regarding which of these theoretical models, if any, is a best fit for the rural renaissance phenomenon. In their analysis of population change in the West from 1970-1995, Shumway and Davis (1996:525) concluded the 1980s were most likely a "contraction" in the turnaround first documented in the 1970s. Rural and small town America had resumed growing in the late 1980s (see also USDA 1995; Beale & Fuguitt 1990; Lichter 1993) and had continued to do so into the mid-1990s; the primary cause was migration, not natural increase.

By the late 1990s, Johnson and Beale (1999) argued that the general pattern of population change in non-metropolitan areas between 1970 and 1996 was most consistent with a process of deconcentration tendencies to selective non-metro areas. They concluded the 1970s were watershed years for rural-urban migration processes in America, the 1980s decade was a temporary reversion to the historical pattern most likely due to period effects, and that the 1990s rural rebound signaled a return to more vigorous growth in small towns and rural areas. In their longitudinal assessment of rural migration patterns from 1950-1995, Johnson and Fuguitt (2000) supported the selective deconcentration thesis. They found that recreation and amenity counties have been among the fastest-growing groups of non-metro counties throughout the last several decades, and that most of the growth is attributable to migration (see also Beale &

Johnson 1998).

Overall, there is little doubt that each of the three theoretical perspectives provides useful, albeit incomplete, explanations for the resumption of growth in small town and rural America (Shumway & Davis 1996; see also Stouffer 1960 and Schwarzweller 1971 for other expressions of systemic migration theory frameworks). The tentativeness of these general level theoretical models in accounting for the shift in historic migration patterns is understandable, probably even normal, given the fluidity of the demographic changes in non-metropolitan America over the last thirty years and the complexity of the forces shaping our economy. It also points out the value of increasing the focus on migration effects at the regional and local levels as a way to more fully develop these bigger picture theories (cf Merton [1957] on the use of middle range theories and the value of accumulated knowledge in science).

Notwithstanding the lack of strong consensus about these theoretic frameworks and a continuing controversy over how well any of the models explain the non-metro population trends of recent decades (Johnson & Beale 1994; Fuguitt & Beale 1996; Wardwell 1988; Johnson & Fuguitt 2000; Shumway & Davis 1996; Stankey 2000), there is a growing body of evidence that increasingly points to the importance of natural amenities at migration destinations in rural areas. This is especially so in communities situated near rural areas, state and national parks, wildlife refuges and other outdoor recreation sites (Fly 1986; Achana & O'Leary 2000; Blahna 1990; Shumway & Davis 1996; Jones et al 1999; Dillman 1991; Fulton et al 1997; Marcouiller & Green 2000; Brown et al 1997; Fuguitt & Beale 1996; Johnson & Beale 1999; Manfredo & Zinn 1996;

Johnson & Fuguitt 2000).

The rural renaissance as green migration.

Buttel (1993) has pointed out the increasing prominence and routinized use of environmental considerations in everyday social discourse and institutional decision-making, processes he describes as greening and environmentalization, respectively. Previously, several researchers had pointed to evidence that suggested that the general public has set environmental protection alongside issues like public health and education as a consensus issue with broad and lasting appeal (e.g., Mitchell 1979; Anthony 1982; Dunlap 1987). Similarly, Fortmann and Kusel (1990) have argued that there is a general greening trend ongoing in the United States.

Contemporary literature at the intersection of rural sociology and migration includes national and international studies that collectively incorporate several green themes. One such substantive area of research addresses the consolidation of economic migration modeling with theories of decision making and residential preference (e.g., Schwarzweller & Mullen 1998; Fulton et al 1997; Johnson & Fuguitt 2000). Amato & Radzilowski (1999), examine how the vertical integration of certain types of rural communities into regional, national, and global networks have affected everyday life experiences in those communities. Also notable is Wardwell's (1999) synthesis of a comprehensive Department of Agriculture Regional Research Project of recent and ongoing demographic change in the rural West. That research examines a range of factors that influence the decisions to migrate, costs and benefits to in-migrants and

communities, and the policy implications of cost-benefit analysis (see also Wardwell & Copp 1999).

Taken as a whole, these studies point to the complex effects that increased "green migration" (Jones et al 2001:1; Jones et al 1999) is having in rural America. While support in rural areas for environmental values appears to be gaining strength (e.g., Nord et al 1998; Johnson & Rasker 1995; Jones et al 1999), migration-related impacts can also result in what Berry (2000:664) called "transformed communities with fewer long-term connections among families and neighbors." In other words, rural communities may become more fully integrated into regional, national, and international networks, while being less internally integrated than before. Community ties will not necessarily weaken, but may become looser as an effect of the new arrivals' relatively short duration of residence in the community. While differences between in-migrants and non-migrants may introduce conflict to community life and increase tensions (Coleman 1957; Morrison & Wheeler 1976; Price & Clay 1980; Carroll 1995; Jacobs 1993; Daniel 1999), the arrival of newcomers may also generate greening processes or awaken sleeping environmentalism and pro-environmental values (Blahna 1990; Jones et al 1999; Fly 1986; Hays 1991; Fortmann & Kusel 1990; McBeth 1995; Smith & Krannich 2000; Rudzitis & Johnson 2000; McBeth & Foster 1994).

Amenity-based migration. Amenity-rich communities in rural America, on the rural-urban fringe, or near metropolitan areas have been powerful attractions as migration destinations for at least three decades (Daniels 1999; Fuguitt & Beale 1996; Galston & Baehler 1995). But the question of "why do they move?" and the quasi-mythical appeal

of the frontier and of small-town and rural America precedes the turnaround phenomenon that began in the 1970s.

In his examination of late-19th century cultural and artistic expressions, the humanist geographer Tuan (1974) found the physical world portrayed as an important source of pro-environmental perceptions, attitudes, and values, rather than a simple repository of material resources with utilitarian purpose. As long ago as the 1880s, Ravenstein (1885, 1889) pointed out that migrants appear clearly to be drawn toward attractive areas and away from unattractive ones. Ullman's (1954:131) early exploration of non-employment and non-economic considerations in people's migration decisions likewise pointed to a search for Aristotle's "better notion of riches" as a compelling factor in their decision to move (see also Stankey 2000; Jowett 1905:43). Similarly, Spectorsky (1955:107) concluded movers away from New York City were "pushed" away from the city by crime, pollution and crowding and "pulled" toward more rural areas by aesthetic amenities such as the quiet sense of nature and rhythm of the seasons.

Graber (1974:510) found general indications that newcomers to "rural retreat" destinations actively considered economic factors alongside the quality of physical environment and other natural amenities in their decision to move (see also Morrison & Wheeler 1976; Williams 1981). When Clark and Cosgrove (1991) applied economic (human capital) and amenity (hedonic) modeling to address migration decision making, they found that both economic factors and amenity differentials are significant factors in explaining regional migration. More recently, Rudzitis (1996) reports most individuals who migrated to rural areas in the 1970s and 1980s were not motivated by push/flight

reasons, but by the pull/attraction of natural amenities offered by their new places. Only about one-quarter said economics or employment motivated their move, and about half reported a drop in income accompanied their decision to relocate (see also Jobes 2000).

Some of the so called "rural renaissance" (Morrison & Wheeler 1976:3; Schwarzweller 1979:8) growth in non-metropolitan areas in the 1970s has been attributed to the "back-to-the-land" movement (Richardson 2000:250), and to large numbers of baby-boomers attending colleges and universities in rural areas (Jones et al 2001). Rural in-migration patterns also appear to be less driven by economic factors than they were in the past and more by quality-of-life considerations. Relatively affluent Americans are searching for higher quality environments with clean water and air, outdoor recreation, less congestion, scenic beauty, and have easy access to cultural and economic resources found in more populated areas (Daniel 1999).

While the rural rebound of the 1990s reflects concerns about quality of life in the metropolis, it also signals the impact of technological advances that allow some people the advantage of working wherever they wish. For many concerned about quality-of-life issues, this means living in rural areas while working out of their homes (Johnson 1999; Johnson & Beale 1999; see also Johnson 1996). As the post-WW II baby boomers (those born between 1946 and 1964) transition to their senior years, they increasingly are seeking sanctuary in the small towns, gateway and retirement communities, and rural areas adjacent to public lands, lakes, wilderness areas, and forests. The better educated, the more affluent, and the elderly continue to flow toward these amenity-rich areas, as well. More workers employed in professional and white collar occupations and

information-based businesses are living and working in or near resort communities and other rural areas (Dillman 1991; Fulton et al 1997), as are younger Americans (Johnson & Fuguitt 2000; Richardson 2000). A significant proportion of them are also commuting to work in urban areas or are commuting via modem rather than by automobile.

Because they are able to attract and hold more business interests, many amenity-rich communities offer particular economic advantages over more remote rural areas and others that are more dependent on natural resource extraction (Decker & Crompton 1990; Johnson & Rasker 1995; Clark & Cosgrove 1991). Jones and his associates (1999, 2001; see also Rudzitis & Johnson 2000) note the decline in the number of people employed in extractive industries has been on the wane for some time and is expected to continue its downward trend. And, as local economies increasingly diversify, they begin to more closely resemble the nation as a whole. Rural communities with economies that are overly dependent on production of primary products (energy, agriculture, fisheries, timber, and mining) are having to come to grips with economic woes brought on by increasingly efficient technology and global market forces that drive down the prices for these goods and services (Jones et al 2001; Krannich & Zollinger 1997; Galston & Baehler 1995).

In the future, it seems likely that capital and human resources will continue to move toward amenity-based rural destinations or to the rural-urban fringe, while more remote rural areas and those dependent on extractive-based employment continue to decline (Shumway & Davis 1996; Johnson 1993; Rudzitis 1993; Johnson & Beale 1994). Fuguitt (1985) found amenity areas to be salient centers of non-metropolitan growth at

the outset of the rural-urban turnaround, a trend that persisted into the reversal/contraction years of the 1980s (Johnson 1993). Johnson and Fuguitt (2000) note that amenity and recreation counties consistently have been among the fastest-growing counties – in hard times and in good – for nearly fifty years (see also Beale & Johnson 1998). In general, the redistribution of the population, along with the redirection of capital and human resources toward the rural-urban fringe and amenity-based destinations, may constitute a new migration paradigm and a structural shift of human and capital resources that appears to be underway in much of rural America. Jones and his associates (2001) refer to this as "green migration," a phenomenon that may be key to explain rising levels of support for environmental values in many rural areas (see also Buttel 1993; Daniels 1999; Galston & Baehler 1995; Jones et al 1999; Howe et al 1997).

Green migration and culture clash. A recurrent theoretical theme in the study of rural-urban differences is that many of the indicators of rural community disorganization and conflict are attributable to the in-migration of culturally distinct groups to rural places. Typically, this is exemplified by the arrival from urban areas of significant numbers of people who bring with them a particular sociocultural identity and an associated set of values, experiences, and normative expectations that contrasts with those of longtime rural residents. Schwarzweller (1979:17), for example, has pointed out that "community solidarity may be threatened by conflicts over goals, the rate of community development, and allocation of community resources" resulting from differences in environmental attitudes between longer-term residents and newcomers. Similarly, Schnaiberg (1986:229) has suggested that newcomers might have a "culture of

environmentalism" with value orientations generally supportive of participation in social movements. In this manner, two ways of life and their values can serve as ready made breeding fields for cultural, economic, and political antagonism in the community (see also Coleman 1971; Buttel & Flinn 1977; Hennigh 1978; Dillman & Tremblay 1977; Price & Clay 1980; Loomis 1982; Jobes 1995, 1988)

In one of the earlier studies in this field of research, Spectorsky (1955) examined the growth of several small towns within commuting distance of New York City, and reported finding a new social class of highly educated and wealthy former urban dwellers (exurbanites) who were distinct from the locals in the workplace and in their social lives, as well as demographically. Kirschenbaum's (1971) analysis of a national sample shows migrants to rural areas can be a source of conflict, as they generally can and do compete effectively with the rural population for employment. Similarly, DeJong and Humphrey (1976) report that selective migration to non-metropolitan Pennsylvania by younger and higher socioeconomic families can worsen or generate local economic woes.

Graber's (1974) assessment of migration-induced changes set in motion by a substantial influx of new arrivals to Georgetown, Colorado, a small (population 542) town some fifty miles west of Denver, likewise suggests a complex set of impacts associated with in-migration. She found migrants (newcomers) more likely to work outside of the community, typically younger, and more educated than their counterparts, findings consistent with earlier studies of mobility characteristics (e.g., Kirschenbaum 1971). Changes linked to in-migration included the early establishment of a strict regulation of development, especially of a set-aside town historic district. It was

newcomers who led the effort to preserve the town's historic features and unique character. Supported by a sizeable block of longer-term residents (old-timers), this issue provided a strategic and uniting interest between newcomers and old-timers that focused on controlling growth and preserving uniqueness. At the same time, however, the preservation issue acted as a divisive factor among the long time residents. Older, less educated old-timers in blue collar occupations generally opposed strict regulation of development and ambitious efforts directed toward historic preservation. These findings are consistent with later reporting by Ploch (1978), who found newcomers in Maine more likely than longer-term rural residents to oppose development policies and have more concern with preserving the environmental integrity and the rural atmosphere of the community (see also Buttel & Flinn 1977; Dillman & Tremblay 1977).

Price and Clay (1980:593) point out there are two interrelated sets of circumstances under which in-migration can disrupt rural community life. First, strains in the system – "institutional overload" – may show up as a consequence of rapid population growth. The influx of new residents can have an impact on the local employment picture, generate demands that exceed the capacity of the existing infrastructure, or seriously stress a range of common community services, e.g., municipal services, health care, education programs, and recreational and cultural opportunities. Second, certain sociocultural differences between old-timers and newcomers can result in a "culture clash" of values and normative expectations held by the two groups. In like manner, Jobes (1995) later described culture clash as a state of chronic animosity and tension between newcomers and old-timers based on the marked differences between

dominant value systems of metropolitan America and those found in rural and small town America. The presumed overly pro-environment, anti-development values commonly attributed to newcomers are sometimes characterized as the "last settler" or "gangplank" mind set. These indicative labels are derived from the in-migrants' resistance to resource and community development so as to protect the low density, high quality, and natural conditions that initially drew them to the area (see Graber 1974; Price & Clay 1980; Blahna 1990; Smith & Krannich 2000).

Loomis (1982) employed a culture clash model when he examined resource management issues, reporting the struggle between newcomers (who favored public lands use for wildlife support) and old-timers (who favor public lands use for livestock pasturage) over range management issues in fast growth areas in the West. And Jobes (1988) notes that much of the migration turnaround phenomenon has been motivated by a search for *gemeinschaft* qualities, a sometimes romanticized ideal that can create disillusionment and conflict in the community. Blahna (1990) points out that many newcomers often act as "advocates of change" (Schwarzweller 1979:16) who instill into rural communities their own hopes, wants, and thoughts of what makes up the good life, and argues that most researchers who study the interaction of culture, migration, and environmental values do so, implicitly or explicitly, from the culture clash perspective.

Culture clash revisited. The culture clash hypothesis rests, in part, on the assumption of anti-environmental attitudes on the part of long-time rural residents (e.g., Dillman and Tremblay 1977; Lowe & Pinhey 1982; Freudenburg & McGinn 1987; Bennett & McBeth 1998; Rudzitis 1996; Jones et al 1999). Blahna (1990:162) argued

that until around the mid-1980s, "whether implicit or explicit, most observers who discuss the issue of conflict do so from the culture clash perspective." That is, culture clash had developed as the predominant theme for exploring the relationship between turnaround migration and environmental conflict. Smith and Krannich (2000) have noted that, during the 1970s and early 1980s, virtually all popular media accounts and some of the social science literature concluded social conflict and tension was the normal result of urban in-migration to rural places and small communities. But despite its logical consistency and "status as conventional wisdom," (Fortmann and Kusel 1990:215), the assumption of conflict between newcomers and old-timers on environmental protection and growth and development issues is empirically contentious.

Jones and his associates (1999) have observed there are a number of studies that point to the increasing flow of in-migrants to rural areas as an important variable in explaining and understanding growing support for pro-environmental values, attitudes, and behavior in many rural communities (see also Manfredo & Zinn 1996; Fortmann & Kusel 1990). Nonetheless, the effects of in-migration are frequently mixed and difficult to disentangle.

Ploch (1978), for example, discovered conflict over environmental preservation and growth issues between in-migrants and newcomers in Maine, but also pointed out that the two groups of residents may find their differences share some middle ground, and need not be competitive or destructive. For example, in-migrants to rural communities can provide managerial, technical, and professional skills that may be lacking in those communities, thereby supplying valuable services for the community and extending its

quality-of-life potential and livability. Other studies report long-time and newcomer residents of rural communities have similar attitudes regarding development and growth (e.g., Garkovich 1982; Fliegel 1980), or that supposed rural-urban differences in pro-environmental attitudes are more likely differences between new arrivals and farmers (Mohai & Twight 1986).

Jobes (1988) reported both newcomers and longer-term residents of Bozeman and Gallatin County in southwestern Montana did not consistently differ on planning issues, and, over time, became increasingly alike in their opposition to state and federal planning in local issues. Additional analysis of follow-up studies in the Gallatin Valley pointed to an assortment of differences on quality-of-life and environmental protections issues that were best explained by socioeconomic characteristics of the in-migrants (Williams & Jobes 1990), and that a majority the residents, newcomers and old-timers alike, welcomed development (Jobes 1995; see also Jobes 2000).

In a nation-wide review of eleven wilderness area counties, Rudzitis and Johansen (1991) discovered wide support for wilderness designation among residents living near wilderness areas, as well as a preference that nearby public forests and lands be managed as environmental systems rather than as resource bases for commodity production. While support for environmental protection was generally high for both groups, on balance, in-migrants were more supportive of pro-environmental sentiments than their long-time resident counterparts. McBeth and Foster (1994) found similar pro-environmental attitudes among upper- and middle-income newcomers when compared to upper- and middle-income old-timers, and general overall support for widespread and cross-sectional

pro-environmental attitudes in western US rural areas. Manfredo and Zinn's (1996) case study of the effects of population changes on wildlife-associated behaviors and values in Colorado reported migration does not appear to have been accompanied by an inflow of new environmental values, although age was an important variable in explaining a pro-wildlife value orientation. Compared to their older counterparts, the young are more likely to be more positive toward rights of wildlife and more negative toward wildlife use and hunting.

Blahna's (1990) comprehensive examination of the relationship between the turnaround migration and social conflict in nine counties of Michigan's Northern Lower Peninsula employed in-depth personal interviews with resource professionals, a survey mailed to a random sample of resident property owners, and yearly environmental conflict event counts from secondary sources. While most measures of attitudes on environmental, resource management, and population growth issues showed no significant differences, differences were reported between the two groups on particular natural resource policies that had environmental impacts. Long-time residents were more likely to support resource policies that emphasized economic development and resource use, while in-migrants were more likely to support policies that stressed preservation, an increase in designated public lands, and zoning restrictions.

Blahna (1990) also found, however, that dissimilar cultural values and attitudinal differences between newcomers and long-term residents are not the only factors that can trigger growth-related conflict. For example, newcomers may find themselves at odds with public or private agencies, *or* united with old-timers in a coalition to oppose or

promote a common interest. Blahna is arguing that environmental conflict may also take root in the "cultural infusion" (1990:170) of organizational, experiential, and leadership skills that in-migrants bring to the receiving community. In this manner, in-migrants may act as change agents by awakening long dormant interests in the community, by becoming involved in issues in which there are shared interests, or by bringing in new ideas and methods for addressing problems in rural and small town communities. His analysis points out that (a) environmental conflict in areas of reverse migration may not be due simply to attitudinal differences between in-migrants and non-migrants, (b) that environmental conflict may not always happen between in-migrants and non-migrants, and (c) that the cultural clash model is too crude to adequately explain the relationship between environmental conflict and population growth in areas undergoing reverse migration.

Other recent research support Blahna's conclusions. Applying Hirschman's (1970) concept of voice, Fortmann and Kusel (1990:214) posit that these new residents provide a "new voice" for green values already held by long time residents of rural areas. Rather than bringing with them newly imported pro-environmental attitudes, the in-migrant's new voices have a Lazarus-like effect, giving new life to existing environmental values in rural areas. In their study of communities near two national forests in the West, they found only very small group differences on environmental values, and thus little support for the culture clash thesis.

Smith and Krannich's (2000) literature review of eleven studies done in the aftermath of the 1970s turnaround decade presented a mixed picture regarding value-

based community conflict. Five studies cited did report value differences and related conflicts, while six others reported few significant attitude differences or conflicts between newcomers and old-timers regarding environmental protection and growth and development issues.

Their own study of three rural communities in the Rocky Mountain West also revisited the "culture clash" and "gangplank" hypotheses using survey data on environmental concern, population growth, economic development, and tourism development in three rural communities in the Rocky Mountain West. Two of the three (Teton Valley, Idaho and Moab, Utah) were going through amenity-related population growth while the third (Vernal, Utah) had under gone energy-development growth during the 1970s. While there were substantial differences on a number of sociodemographic characteristics between newcomers and long-time residents, there were few significant attitudinal differences between the two groups in Vernal and Teton Valley; however, newcomers had a higher level of environmental concerns in Moab. Where statistically significant differences did show up, they were not always in the predicted direction. For example, longer-term residents of Teton Valley were more concerned over economic development and population growth, and long-term residents of Moab were less likely to support tourism. This set of findings, according to the Smith and Krannick, undermines the "gangplank" thesis that assumes newcomers are more opposed to growth and development than long-term residents. The authors instead speculate that growth and development may pose greater threats to long-standing residents' sense of personal and community identity. They conclude that although attitudinal differences may exist

between newcomers and long-standing residents in areas of reverse migration, they tend to be exaggerated by the media and others, and that both groups may actually share more common ground than is ordinarily assumed.

Jones et al (2001) found rural non-migrants are concerned and committed to environmental values, but may place relatively less priority on them than do in-migrants. Even so, the differences were small and it appears the two groups occupy appreciably more common ground regarding the environment than is posited by the culture clash paradigm. Their study, and similar others (e.g., Fortmann & Kusel 1990; Smith & Krannich 2000; Blahna 1990), suggest that potential conflict between in-migrants and non-migrants could be attributable to a range of factors and not restricted to differences in environmental values. Further, the research points to the possibility for cooperation between these groups, and a synergistic, pro-environmental effect based on willingness to integrate their shared interests based on a common set of environmental values.

Summary.

Chapter III has documented an unprecedented shift in the structure of rural-urban[7] migration that began several decades ago, one that continues to substantially affect the demographic processes of rural and small town America. Surprising evidence began to surface around 1970 that our rural-urban population migration trends had turned around.

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[7]Recall that Chapter II included a review of the hypothesized differences in concern for environmental quality between rural and urban residents for the rural renaissance years (1970-2000). While the early literature did point to modest differences between rural and urban residents in their concern for environmental quality, that may no longer be the case. More recent research, from the mid-1980s through the 1990s, finds little or no difference in environmental concern between rural and urban residents.

Since then the United States has experienced three major unanticipated shifts in its migration patterns, collectively known as the rural renaissance. The first was the turnaround period that began in the late 1960s to 1970, which featured migration-driven population growth in non-metropolitan areas. The turnaround contrasted dramatically with earlier long-term trends, in which net migration into growing and increasing numbers of metropolitan areas was predominant. Similar shifts in patterns of population distribution were reported by Champion (1989; see also Forsythe 1980) for a number of other countries in Western Europe. Second, in the late 1970s and early 1980s, population researchers were again taken aback as non-metropolitan growth slowed significantly, shifting again to a migration pattern that favored metropolitan areas. This reversal led some researchers to conclude that the original turnaround was most likely an aberration, a short-term departure from the historical norm. Nonetheless, the rural rebound of the 1990s saw population redistribution trends undergo a third unanticipated shift that continues today. The rebound approximated the original turnaround shift, although it was of somewhat smaller magnitude.

We have also pointed out the growing use of environmentally-related concepts and symbols in day-to-day social discourse (greening) and institutional practices (environmentalization), as well as the establishment of relatively high levels of public support for environmental protection. Concomitant with the rise in the visibility and importance of the social and institutional bases of environmentalism is a body of research literature that suggests the increasing importance of natural amenities at migration destinations in rural areas. In fact, urban-to-rural migration to retirement and natural

amenity locations has persisted throughout all three decades of the rural renaissance, even during the reversal decade of the 1980s.

Nationwide, communities with high natural amenity values have absorbed in-migration throughout the rural renaissance period. The culture clash and gangplank hypotheses, which predicted widespread social conflict and strong opposition to development in these areas, are based on the assumption of significantly different values between in-migrants and long term residents. Research results regarding the culture clash and gangplank hypotheses are mixed. Early studies, on balance, support the prediction of culture clash, i.e., social conflict based on dissimilar environmental values of newcomers and old-timers. Later studies, however, point to a more diverse range of possible outcomes. Community conflict may also arise out of interest-based friction between newcomers and public or private agencies, rather than from differences in cultural values between resident groups. It is also possible that newcomers and long-term residents may form coalitions, uniting in common opposition to an issue that threatens a shared interest. Or, it could be that in-migrants actually resurrect sleeping or otherwise suppressed pro-environmental values held by long-time rural residents.

Taken as a whole, the literature reviewed in Chapters II and III points to a closing of the gap between rural and urban residents – especially since the mid-1980s – regarding concern for environmental protection, side-by-side with increasing levels of public support for environmental values in small town and rural America. During the same time-frame, non-metropolitan and rural places have experienced migration-associated population gains at the expense of urban areas. These findings suggest a growth in

environmental values in rural communities, due perhaps to a general greening trend, a significant increase of in-migration to rural places, or to more diversified economies in rural areas.

Chapter IV speaks to conceptual and methodological uncertainties derived from the Chapter II and III literature reviews, and then addresses the conceptual framework, methodology, and hypotheses for the current study.

IV
CONCEPTUAL FRAMEWORK, METHODOLOGY & HYPOTHESES

This section of the dissertation will focus on the theory and methods used to test for differences between rural in-migrants and non-migrants on various facets of environmentalism. Drawing on literature of universal value types (Rokeach 1973; Schwartz 1992, 1994, 1996), the social bases of environmental concern (Van Liere & Dunlap 1980; Jones & Dunlap 1992; Dunlap & Jones 2001), general beliefs and world views concerning the environment (Dunlap 1980; Dunlap & Catton 1980, 1993; Dunlap & Van Liere 1984), and the value basis of environmental concern (Stern & Dietz 1994; Dietz et al 1998; Stern et al 1998), we examine environmental values and world views of migrants and non-migrants in the Norris Lake watershed area in East Tennessee.

Earlier chapters appraised and summarized fairly extensive bodies of literature for the period 1970-2000 regarding the social bases of environmental concern and rural-urban migration patterns in the United States, respectively. These reviews revealed continuities and change in this body of research, as well as a number of conceptual and methodological shortcomings. We begin by discussing some of the salient problems in each of these areas, and then provide a general analytic framework that attempts to address these problems. Finally, I discuss the methodology used to collect data for the dissertation, along with a description of the variables and the hypotheses.

Conceptual and methodological uncertainties.

The shift away from an industrial-based economy toward one increasingly dominated by service and information technology has occurred alongside a shift in the historical population redistribution patterns of the United States. Part of the accelerating globalization processes of the last thirty years has been the increasing salience of quality-of-life values and values associated with the protection and preservation of the environment. For researchers, these macro-level changes have contributed to a mixed picture of the relationship between rising levels of support in rural places for environmental protection and the effects of growing in-migration to rural places.

While the methodological and conceptual questions that have emerged from our literature review are complex in their own right, as well as interdependent, we can discuss them in two broad areas – environmental concern and migration.

Conceptualizing and measuring environmentalism.

The emergence of sustained high levels of public support for environmental quality in the mid-1960s to early 1970s drew spirited interest from a broad collection of disciplines and remarkably diverse approaches to the study of how people perceive environmental issues. The enthusiasm of this early research milieu generated as least as much confusion as clarity, giving quick rise to a disorganized and ad hoc body of literature that prompted Heberlein's (1981:241) widely cited lament that environmental attitudes are "fundamentally important, widely discussed, frequently measured, and poorly understood." This condition can be explained in part by the huge variety of

indicators of environmental concern that complicates attempts to conceptualize and measure "environmental concern," to replicate of studies of it, and to ground environmental concern research in empirical generalizations (Buttel & Johnson 1977). Given its equivocal nature as an attitude object, it is hard to even conceive of a general-purpose attitude about a generic "environment" (Heberlein 1981). That is, we virtually always have attitudes about particular objects in the environment – a local stream or valley, the Big Sur, or the Southern Appalachians – rather than having a holistic attitude toward a general environment.

An important aspect of this problem was pointed out by Van Liere and Dunlap (1981) in their early examination of the environmental concern literature. They showed that neither the "environment" nor the "concern" component of "environmental concern" had been consistently measured or conceptualized, and that these inconsistencies had an important effect on empirical findings. That is, they found threats to validity and reliability emerging from variations of what defined an environmental issue (and in how those issues were nested), and in assumptions about what constituted a true public expression of environmental concern. The literature's regularity of inconsistency is what Stern (1992:279) later calls an "anarchy of measurement" that testifies to the conceptual fuzziness that characterizes studies of environmental concern (see also Dunlap & Jones 2001). Similarly, other recent research points out that ambiguous relationships between demographic variables and indicators of environmental concern reported in the literature generally derive from a lack of attention to specific trade-offs or contingencies tied to how environmental concern is measured (e.g., Jones 1998; Klineberg et al 1998).

In other words, everyone experiences different facets of "the environment" in distinct ways, rather than generically, and "what if" conditions always color those experiences. Because it does make an empirical difference how environmental concern is measured, environmental issues are best cast in relation to other concerns, such as development. While there are exceptions, (e.g., Jones 1998; Jones et al 1999; McFarlane & Boxall 2000) many studies are designed around sociodemographic or general attitudinal measurements, only some of which use sociodemographic variables as controls.

Values, world views, attitudes, and environmentalism. Despite conceptual shortcomings, a sizable and worthwhile body of research on environmental concern has been collected and analyzed over the last 30 years. Much of this work has focused on general levels of concern for environmental quality in the public sphere, providing a substantial accumulation of valuable information about both the social bases of environmental concern (Jones & Dunlap 1992; Van Liere & Dunlap 1980) and broad trends in public opinion on environmental issues (Dunlap & Scarce 1991; Dunlap 1992; Dunlap & Saad 2001). Notwithstanding its considerable contributions, the environmental concern literature has been criticized as atheoretical, primarily for three reasons. First, it has tended to be closely tied to public opinion polling and researchers' intuitive understanding of environmental policy issues. Second, it has relied too heavily on sociodemographic variables to explain variation in levels of public concern for environmental protection. And finally, the literature has not been integrated with social-psychological theories that assume linkages between several components – *cognitive*

(beliefs and knowledge), *affective* (attitudes), *conative* (behavioral commitment or intention), and *behavior* – that account for the formation of attitudes and attitude-behavior relationships (Fishbein & Azjen 1975; Heberlein 1981; Stern 1992; Kim & Hunter 1993; Dietz et al 1998). As Dunlap and Jones (2001) argue, the key to explaining and understanding the "concern" aspect of "environmental concern" is found in conceptualizing the attitude-behavior connection through the use of these essential theoretical constructs (knowledge, attitudes, intentions, and behavior).

Few, if any, social scientists hypothesize that all variation in some measure can be completely accounted for by its covariation with a single independent variable. This generalization rings especially true in the case of research on the social correlates of environmental concern and attitudes toward the environment. There is evidence that connects sociodemographic and attitudinal indicators of environmental concern to more general world views and to fundamental values. For example, in their study of beliefs about wild land preservation, Vaske and Donnelly (1999) developed a value-attitude-behavior model that suggests an individual's view of the environment can be organized into a cognitive hierarchy consisting of values, value orientations (patterns of basic beliefs), attitudes and norms, behavioral intentions, and behaviors. Fundamental values are the most abstract of our social cognitions; they typically transcend situations, are central to our basic beliefs, and are relatively slow to change. At the other end of the hierarchy are social derived behaviors; they normally are situation-specific, more peripheral to our basic beliefs, quick to change, and numerous.

Further, ample research supports the conclusion that broad values and attitudes

reasonably predict specific ones (Stern 1992; see also Fishbein & Ajzen 1975; Ajzen & Fishbein 1980), and that the attitude-behavior relationship is a moderately strong one (Kim & Hunter 1993). General support for pro-environmental views has been associated with agreement with the "new ecological paradigm" (Dunlap & Van Liere 1978; Dunlap et al 1992; Dunlap et al 2000), to the "self-transcendent" cluster of values (Schwartz 1992; see also Karp 1996; Stern et al 1995), and with higher levels of anticipation of harm to the environment (Stern et al 1995).

Stern and his associates (1995) have argued that environmentalism is best analyzed in terms of empirically distinct constituent elements: social structural and institutional factors, values, general world views, specific attitudes, beliefs, and cognitions about environmental issues, and environmentally relevant behavior. Their rationale expands the conceptual envelope of environmentalism by integrating a proven social-psychological attitudinal model into a set of higher order variables. By enriching the theoretical parameters of environmentalism, this more general framework promises increased explanatory power and the potential for a deeper understanding of public support for environmental quality than we have thus far derived from sociodemographic, personality, or attitudinal correlates alone.

Taken together, this critique suggests an extension of the study of environmental concern toward a study of environmentalism, a larger scale concept. It also implies the importance of the boundaries, or different facets, of public concern for environmental quality.

A heuristic model of environmentalism. A simplified theoretical model of environmentalism (Figure 1) posits a primary flow of causation from top to bottom. Factors at the top are antecedent to and slower to change over longer periods of time than those at the lower or intermediate levels. It assumes individuals are positioned in a social structure that has significant influences on psychological variables. The social structure shapes early experiences and thus an individual's values and general beliefs. As well, it supplies opportunities and constraints that influence behavior and perceived responses to behavior (see also Stern & Dietz 1994; Guagnano et al 1995; Dietz et al 1998; Stern et al 1999).

The model places values and world view as causally antecedent to particular beliefs, which in turn are antecedent to personally held norms and intentions. New incoming information is screened through one's world view and values. The more closely incoming information corresponds with an individual's values and world view, the more likely it will be to influence their beliefs and attitudes.

Operational measures of environmental concern, value types, world view and the independent variables (non-migrants and in-migrants) are addressed more fully in the variables section of this chapter. An examination of the survey results will allow an assessment of the relationships between the independent variable (migrant status), variables associated with environmentalism (sociodemographic variables, values, world view, specific beliefs and attitudes, and behavioral intentions).

Position in the social structure;
Institutional opportunities and constraints

Values

General beliefs and world view

Specific beliefs and attitudes

Behavior intentions and commitments

Behavior

Figure 1: A simplified schematic model of environmentalism
Adapted from, Stern et al 1995: 727

Environmental concern and migration.

The effects of in-migration on concern for the environment and its protection are typically examined using a residential status variable based on arrival at the study area. That is, duration of residence separates the in-migrant newcomers from the old-timers or longer-term residents. Numerous studies use a ten year separation point to distinguish rural in-migrants from non-migrants: newcomers are residents who have lived in the study area less than ten years; old-timers or longer-term residents are those who have lived in the area for 10 years or more. While many of these studies do not provide a clear explanation for selecting this interval, those that do (e.g., Fortmann & Kusel 1990; McBeth & Foster 1994; Graber 1974) suggest that length of residence is important for developing an adequate feeling of social integration into the community, or an adequate period of socialization to the local culture. Other studies (e.g., Jobes 1988; Johnson & Rasker 1995) have used a five year separation point, supposing it is more applicable to separate newcomers from long-term rural residents based on the approximate year in

which significant in-migration to the study area began. Smith & Krannich (2000:406) employed this rationale, for example, to establish a five-year point to distinguish the "major wave" of newcomers from longer-term residents in their study of three rural communities in the Rocky Mountain West. When Jones and his associates (1999) tracked rural-urban environmentalism in Southern Appalachia, in-migrants were identified as those living in rural areas in non-metro counties who had moved to the region since 1970, about the time regional in-migration rates began their significant rise.

Virtually all studies operationalize migrants as an aggregate group. Few studies, if any, compare the independent effects of different lengths of residence on attitudes toward the environment, population growth, or development. Likewise, none of the studies cited disaggregate migrant populations to a level that allows researchers to discern which migrants are returning to the same rural area, or which migrants arrived from relatively urban areas to rural locations. And, with few exceptions (e.g., Blahna 1990), more recent studies are geographically limited to the West. It may be that the West has distinct ecosystems and idiosyncratic cultural, economic, and political features that draw into question how well research findings from that region might generalize to other regions such as the Pacific Northwest, the Northeast, or the South.

Our research focuses on the Norris Lake Watershed Area (NLWA) in upper east Tennessee. The Norris Reservoir is in the Central Ridge and Valley region of Southern Appalachia, and was the first reservoir developed by the Tennessee Valley Authority (TVA). With its relative pristine quality, Norris Reservoir is considered one of the "jewels" of the Tennessee Valley System and remains a popular destination for

fisherman, boaters, and other outdoor recreationists, as well as for seniors and aging baby boomers who move there to retire (Jones et al 2000).

Southern Appalachia is a predominantly rural area, whose residents' shared history, culture and record of social activism *vis a vis* the land and the environment is long established (Cordell et al 1996; Jones et al 1999). The attachment to the land, along with a strong sense of kinship and community, has helped sustain traditional Appalachian culture during long periods of hard times, some of which is tied directly to economic issues and natural resource exploitation (Schwarzweller et al 1971; Gaventa 1980; Cordell et al 1996). The current study assumes that life-long residence in rural areas of Southern Appalachia – a region with a long history of political and economic isolation and a unique mountain culture that has historically valued resilience and self-reliance – might well differentiate between how Appalachian residents relate to issues of environmental quality and its protection.

Methodology.

This dissertation uses secondary data drawn from a larger research project commissioned by the Waste Management Research and Education Institute, University of Tennessee. The study was undertaken to gain a basic understanding of the views residents of the Norris Lake Watershed Area (NLWA) had about environmental and resource management issues of the watershed. To this end, a telephone survey was carried out by the Social Science Research Institute at the University of Tennessee-Knoxville between 20 November 1999 and 30 January 2000.

Population and Sample. Telephone interviews were conducted with adult (18 years of age and older) residents living in the NLWA. Inasmuch as watersheds are defined by natural and landscape features rather than by census or other state and federal political boundaries, there were no readily obtainable demographic data that could be used to directly identify the adult population of the watershed. Thus, the general population was defined by using a Geographic Information System (GIS) data base to ascertain which census blocks were located inside the biophysical boundaries of the watershed.

Seventy-five census tract blocks were selected to represent the NLWA. These census tract blocks had a range of 61 to 100 percent of their total land area physically within the watershed. However, a large majority (87%) of the tracts had more than 98 percent of its land physically inside the watershed, and on the whole, the average census tract block had 98 percent of its land in the NLWA. Accordingly, there is a strong probability (> 95%) that the households selected for the survey were actually located in the biophysical boundaries of the watershed. This sampling procedure also allowed a more thorough assessment of the possible differences and similarities between the social demographic characteristics of the sample population (adults residing in the watershed's 75 census tract blocks who completed interviews) and the targeted population (adults residing in the watershed's 75 census tract blocks).

The census blocks chosen to represent households in the NLWA were identified by their census tract and block numbers. This information was used by Survey Sampling Incorporated (SSI) of Fairfield, Connecticut to generate a proportionate stratified random

sample of listed telephone numbers for households within the watershed. The number of households subsequently chosen in each census block was determined by the proportion of households in the particular census block divided by the total number of households across all of the census blocks in the watershed. Households with listed telephone numbers were chosen because this provided the names and addresses of potential respondents. This method made it possible to send each household a pre-survey letter describing the survey, its purpose, and its potential benefit to the participant. These letters were also sent out to increase the survey's response rate (Salant & Dillman 1994).

The general population, therefore, included adults (18 years of age and older) living in households with a telephone number listed in a current (June 1999) telephone directory, and whose household had at least a 95 percent chance of being inside the NLWA. A total of 2000 listed telephone numbers were randomly selected and afterwards called. Telephone interviews were conducted with 643 adult residents living in the watershed area. When adjusted for refusals, non-working numbers, and other ineligible or excluded numbers, the total response rate was 44.4 percent.

Based on past studies of survey research methods, it is expected that the sample would be comprised of more adults who are female, older, and with middle incomes than are actually in the general population. Several common conditions are at work here. The sample included only households with listed telephone numbers, which under-represents more transient, and typically younger, sections of the population. Middle income households should be slightly over-represented because they tend to have a lower proportion of unlisted telephone numbers than lower and upper income households.

Women, because they tend to answer the telephone at a significantly higher rate than men, will tend to be over-represented in the sample. To reduce the probable over-representation of women, the "birthday method" of selecting adult members from each household was used. This survey method includes asking the person who initially answers the telephone to let the interviewer speak with the member of the household who had the most recent birthday. It is this person who is asked to participate in the telephone interview (Salant & Dillman 1994). It is only possible to approximate the effect on the survey results from demographic differences between the general population and its sample. We know that the "environmental concern" literature generally shows consistent but weak relationships exist between age, education, and concern for environmental protection. Younger adults and better educated people tend to be a bit more concerned and supportive of environmental protection than their respective counterparts. Since younger residents were under-represented and the better educated over-represented in the sample, we would expect that these sample-population differences would largely negate one another and thus have a minimal impact on the substantive results.

Generally speaking, gender and income are not consistently or strongly related to environmental concern and support for environmental protection. There is, however a slight tendency for females to be more involved in and concerned over local environmental issues than men. However, there were no sample-population differences for gender. Overall, research on the social correlates of environmental concern is too limited and inconsistent to be able to allow an accurate assessment of the potential impact of population-sample differences found for other social demographic variables used in the

survey (Jones & Dunlap 1992). Consequently, we conclude that although the sample differs from the general population, it does not differ enough, nor does it differ in ways that would have a significant impact on the general findings. At most, the sample may reflect a slight pro-environmental bias when compared to the general population.

The size of the sampling error for the NLWA sample yields a confidence interval of plus or minus 3.9 percent. This means that 19 out of 20 times (95% confidence level) a random sample of 643 is drawn, the sample estimate should be within plus or minus 3.9 percent from the population value. Thus, the number of interviews conducted in this study should provide fairly accurate estimates of the general views and characteristics of the average resident living in the watershed area.

Survey measures. The survey included a watershed-specific and a general measure of environmental concern (Q10, 11); multiple measures of relationships between humans and the environment (Q40, 41, 42, 43, 44, 45, 46, 47) derived from Dunlap et al's (2000; see also Dunlap & Van Liere 1978, 1984) New Ecological Paradigm (NEP) scale; and multiple measures of value types (Q48, 49, 50, 51, 52, 53, 54, 55, 56, 57) derived from Schwartz's (1992, 1994 1996) theory of integrated value systems model.[8] Both the complete set of NEP scales and Schwartz's values model have proven to have acceptable internal reliability for multi-item summed indexes. Additionally, the survey collected information on a range of standard sociodemographic variables, i.e., age (Q85), education (Q86), income (Q87), political views (Q88), and gender (Q92). Other

[8]Specific appendices regarding these and other applicable variables are further identified later in this chapter and in Chapter V/Findings.

sociodemographic variables include migration (Q65-70), residence (Q71-75), rural land ownership (Q77), voting (Q79), participation in public meetings/forums or active membership in an environmental organization (Q80-81) and employment (Q82-84). Information on race/ethnicity was not collected because of the racial homogeneity of the target population, which is approximately 97 percent white. Information on religious preference was collected but not incorporated into this study, because the target population is approximately 95 percent Protestant.

Variables.

The primary independent variable for this study is migrant status. Previous studies of migration effects on environmentalism in rural areas assumes in-migrants to rural areas have always come from urban areas, an assumption that is not always empirically grounded. The current study allows a demographic snapshot of who moved into the Norris Watershed, the year they moved, whether or not they moved from a rural or urban area, and whether or not they settled in a rural or urban area. We should also be able to interpret the findings in terms of several alternative theoretical explanations – cultural clash, gangplank, new voices, cultural infusion, and green migration – of rural-urban differences and rural conflict frequently attributed to environmental attitudes of new residents from urban areas (see Graber 1974; Price & Clay 1980; Blahna 1990; Fortmann & Kusel 1990; Smith & Krannich 2000).

Following a discussion of the independent variable, we will discuss other variables used in this study; i.e., measures of environmentalism and sociodemographic

variables. Using the Stern et al (1995) model that links more abstract measures of environmentalism (e.g., values, world view, and attitudes) to its more concrete measures (behavior), this latter discussion will first address variables based on Schwartz's (1992, 1994, 1996) theory of integrated value systems; second, world view variables derived from Dunlap et al's (2000) New Ecological Paradigm Scale; and finally, traditional social bases and other attitudinal and behavioral variables historically associated with the environmental concern literature.

Independent variable. The primary independent variable, migrant status, was constructed using information on birthplace and residence. Ultimately, we wanted to compare lifelong residents of East Tennessee who lived in rural areas with migrants to East Tennessee who lived in rural areas *and* came from urban areas.

Our initial sort of the data showed 453 non-migrants (life long residents who were born in East Tennessee) and 190 migrants to the area. A follow-up survey was conducted to identify migrants who might have been born in East Tennessee, but left and then migrated back to the area. We felt that screening out return-migrants from the migrant pool would eliminate possible contamination from socialization effects that might mask differences between life time residents and "true-migrants" to the watershed area. Our second sort, based on the follow-up survey, reduced the migrant pool from 190 to 166 residents. Left untouched at this point were the 453 non-migrants.

The next step in the process was to further screen both the non-migrant and migrant samples so that all that remained were non-migrants who currently lived in rural areas, and migrants who migrated from urban areas *and* now lived in a rural area.

Differentiating rural from urban residence was complicated by slightly different categorical manners in which the survey collected information on the current residence of non-migrants and on the past and present residences of the migrants. Given the differences in the way the residence data was collected for the two groups, the best rural-urban breakpoint was a population of 25,000. That is, rural non-migrant residents were defined as those life time residents currently living in a place of less than 25,000. Rural migrant residents were defined as those currently living in a place of less than 25,000 *and* who migrated from a place of more than 25,000 population.

This sort transformed the 453 non-migrants to 381 rural non-migrants, and the 166 migrants to 117 urban-to-rural migrants. We further split out the urban-to-rural migrants into two groups: those who migrated less than 10 years ago (at the time of the survey) and those who migrated 10 years or more ago. This operationalization process is distilled in tables 1 and 2.

Dependent variables. Using Stern et al (1995; see also Dietz et al 1998; Guagnano et al 1995; Stern et al 1993; Seligman et al 1994) as a guide to examine hypothesized differences in environmentalism between rural non-migrants and rural in-migrants, we derived several measures of environmentalism from the survey: (a) ten motivational value types (Q48-57); (b) eight world view or human-environment relationship measures of a pro-environmental view (Q40-47); and (c) two indicators, one specific and one general, of environmental concern (Q10, 11), each of which is discussed below.

Table 1
Rural residents

Group	Frequency
Non-migrants	381
Migrants	117
Total	498

Table 2
Rural residents

Group	Frequency
Non-migrants	381
Urban-to-rural migrants (< 10 years)	56
Urban-to-rural migrants (10 years +)	61
Total	498

Schwartz (1996:2-6), building on earlier work by Rokeach (1973) and Kluckhohn (1951), argues there is a universal content and structure of values that addresses three conscious universal requirements of human existence: biological needs, requisites of coordinated social interaction, and demands of group survival and functions. From these three universal requirements, Schwartz has developed an *integrated value systems scale* based on ten motivationally distinct types of values that together incorporate approximately fifty single values. Viewing value types as an integrated system fits the conception that attitudes and behavior are guided by tradeoffs among relevant, competing values and favors theory building and testing over ad hoc interpretation. When Schwartz's value types – power, achievement, hedonism, stimulation, self direction, universalism, benevolence, conformity/tradition, security – are arranged in this sequence and then paired, we note the overlapping motivational orientations of the adjacent value types. According to Schwartz (1996:4),

> Power and achievement both emphasize social superiority and esteem.
> Achievement and hedonism both express self-centeredness.
> Hedonism and stimulation both entail a desire for affectively pleasant arousal.
> Stimulation and self-direction both involve intrinsic motivation for mastery and openness to change.
> Self-direction and universalism both express reliance upon one's own judgement and comfort with the diversity of existence.
> Universalism and benevolence both entail concern enhancement of other and transcendence of selfish interests.
> Tradition/conformity and security all emphasize conservation of order and harmony in relations.
> Security and power both stress avoiding or overcoming the threat of uncertainties by controlling relationships and resources.[9]

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[9]These ten value orientations can be further collapsed into four higher order values types: self-enhancement (power, achievement, and hedonism) openness to change (hedonism, stimulation, and self-direction), self-transcendence (universalism and benevolence), and conservation (conformity/tradition and security). Note that hedonism shares elements of both openness and self-enhancement.

There is substantial support for the distinctiveness of these ten universal value types from research with samples from at least 41 countries (Schwartz 1994, 1992; Schwartz & Sagiv 1995; Sagiv & Schwartz 1995). The near universality of the structure of relations among value types implies the meaning of each value type is similar in a huge majority of the samples reported by Schwartz and Sagiv (1995), although the importance of the ten value types varies substantially across samples. The similarity of meaning in the value orientations makes it possible to interpret the differences in value importance between groups; in the case of the current study, between non-migrants and in-migrants living in the Norris Lake Watershed Area. We can see in Figure 2, however, that opposing motivational values cannot easily be pursued at the same time.

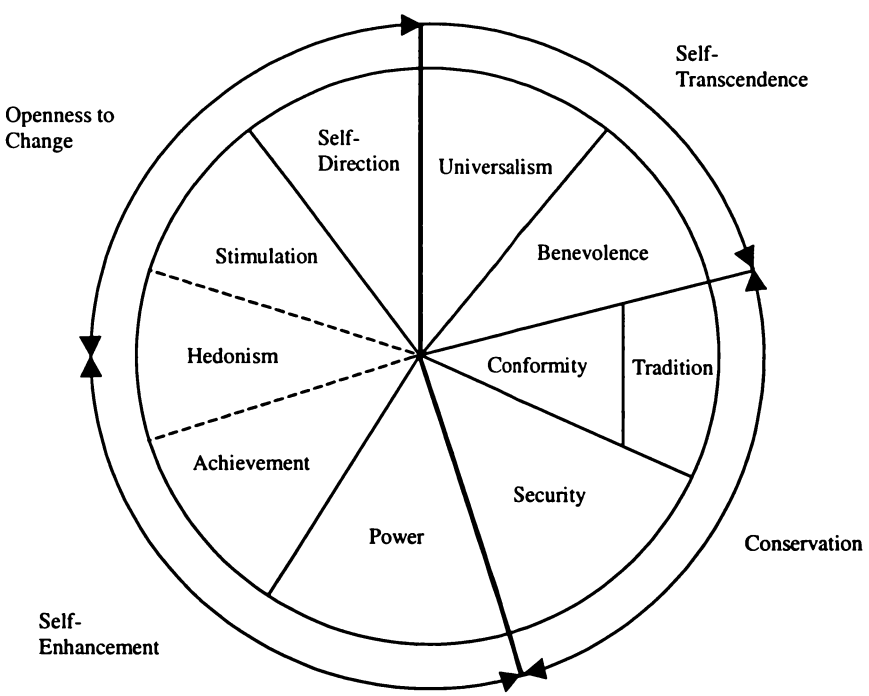

Figure 2: Prototypical structure of value systems
(Schwartz 1996:5)

For the purposes of this study, we tapped each of these ten value types. The original survey questions, and definitions of motivational types of values along with a brief description of the single values that represents them are found in Appendix B.

Dunlap and Van Liere's (1978) original New Environmental Paradigm (NEP) scale, is the earliest and most widely used measure of an ecological world view. The original scale was comprised of a set of 12 Likert items designed to measure three facets of a pro-environmental orientation, i.e., beliefs about human ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to dominate the rest of nature. In its initial use in the field, the scale measured these three facets with respectable degree of internal consistency (alpha coefficient = .81) and was a powerful tool in distinguishing between known environmentalists and the general public.

It also established an empirically credible argument that environmentalism was inherently and strongly antithetical to our central views about the human-nature relationship. Over the last two decades the adaptation and employment of the original NEP Scale by others has resulted in the increasing displacement of traditional sociodemographic indicators to explain and understand "environmental concern." Wider use of more sophisticated instruments became the norm for sociological inquiry into environmentalism. The new research azimuth is based on an assumption that a significant transformation in values and/or world view is under way. This hypothesized shift toward an alternative world view stems from a spreading public recognition of a more complex relationship between humans and their natural environment (e.g., Milbraith 1984; Dunlap & Van Liere 1984; Olsen et al 1992; Chandler & Dreger 1993;

Thompson and Barton 1994; Dunlap 1998; and O'Connor et al 1999).

Dunlap and his colleagues (2000) have developed and tested a revised NEP scale that proposes a wider range of facets of an ecological world view, broadens the content of the original scale, provides a better balance of pro and anti-NEP items, and brings some of the language of the instrument more in line with contemporary usage.

The revised scale, designated the *New Ecological Paradigm Scale*, consists of fifteen items. Three items are used to explore each of five hypothesized dimensions of an ecological world view: the reality of limits to growth, anti-anthropocentrism, the fragility of nature's balance, rejection of exemptionalism, and the possibility of an eco-crisis.

Eight items from the 15-item revised NEP Scale (Dunlap et al 2000:433) were used to measure ecological world views of non-migrant and in-migrant populations in our study. The abridged scale used two questions from each of four hypothesized facets of an ecological world view (the reality of limits to growth, anti-anthropocentrism, rejection of human exemptionalism, and the possibility of an eco-crisis). Administrative and funding requirements associated with the larger survey precluded the use of the entire revised scale. Additionally, we were not able to address the fifth facet, the fragility of nature's balance, in this study.[10]

Half of the NEP questions in the survey, as appropriate, were recoded so that high scores would reflect pro-ecological views throughout the scale. The eight variables were

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[10]We examined the factor loadings for each of the three variables for all four factors. Questions selected for use in the survey matched the two highest loadings for each of our hypothesized facets of an ecological world view. The higher the factor loading the closer the association of that item with the group of items that make up the factor (see Dunlap et al 2000:435, Table 2).

then used to construct a summed composite eight-item index (Cronbach's alpha = .63) reflecting an ecological world view. Our alpha coefficient, as expected, indicates a lower, but still suitable, measure of internal consistency than if we would have been able to use the entire 15-item, 5-facet scale,[11] which has an estimated reliability coefficient of .83 (Dunlap et al 2000). The original survey questions and the complete revised NEP Scale items are found in Appendix C.

Questions 10 and 11 addressed general levels of *environmental concern* over a local environmental issue, i.e., the environmental quality of public lands and waters in the Norris Lake watershed, and about national environmental issues. Each question was first recoded so that higher scores indicated higher levels of concern for environmental quality. These two questions were then combined to form a single general indicator of environmental concern. The original survey questions are found in Appendix D.

Control variables: Sociodemographics. Several standard sociodemographic variables were built from information collected on age, education, income, political views, and gender. The demographic variables (Appendix A) are useful in indicating where concern for environmental quality is strongest in the population, and can serve as control variables for analysis of world view and value orientation of the migrants and non-migrants..

The *age* variable was derived by subtracting the year of birth from the year of the survey (1999). Ages ranged from 18 to 86. Levels of *education* include (1) less than a

[11]Alpha coefficients tend to increase or decrease as scale lengths increase or decrease, all other things equal (Bohrnstedt & Knoke 1994:265-268).

high school diploma, (2) high school diploma, GED, or equivalent, (3) some college, including vocational, trade, or junior college graduate, and (4) a college degree or greater. *Income* categories include (1) under $15,000, (2) $15,000 to 24,999, (3) $25,000 to 34,999, (4) $35,000 to 49,999, (5) 50,000 to 74,999, and (6) $75,000 or more. *Political* views are categorized as (1) conservative Republican, (2) moderate Republican, (3) Independent, (4) moderate Democrat, and (5) liberal Democrat. *Gender* was recorded female or male, as appropriate.

Other sociodemographic variables include the (independent) *migrant* variable, described above, constructed from information on place of birth and residence. Additionally, information on political behavior was collected by the survey, to include voting in local elections (yes or no), attendance at a public meeting held by a government agency (yes or no), active membership in an organization that tries to improve or protect the natural environment (yes or no), and owning rural land (yes or no). Finally, respondents were asked to answer three questions on *employment* status. First, employment categories include (1) homemaker, (2) retiree, (3) student, (4) working full-time, (5) working part-time, (6) unemployed. Second, respondents were asked (yes or no) if they or any member of their household, were employed in farming, ranching, timber, mining, or any natural resource extractive industry. Third, respondents were asked (yes or no) if they or any member of their household were employed in outdoor recreation, wildlife management, environmental protection, eco-tourism, or any job based on natural amenities.

Alternative theoretical concepts.

As discussed in Chapter III, several theoretical formulations in the migration literature provide alternative explanations of assumed differences in environmental values between in-migrants and non-migrants. These formulations are encapsulated below.

Culture clash: In-migrants to rural areas from urban areas bring with them a particular sociocultural identity, life styles, and associated value and belief orientatins that are significantly different than non-migrants and/or longer term residents. Social change/conflict is the predicted outcome.

Gangplank/last settler: In-migrants tend to oppose new growth and resource development in order to retain the natural amenities and uncrowded conditions that drew them in the first place. In-migrants are opposed by non-migrants who hold stronger utilitarian values (vis-a-vis the environment) that are linked to economic benefits derived from the extraction of natural resources.

Cultural infusion: A expansion of the culture clash thesis, which posits organizational and environmental variables, as well as different values and attitudes, better explain how in-migrants contribute to social conflict/change in their new community. In-migrants, for example, may find themselves aligned with non-migrants in coalitions to promote a common interest or to oppose private or public agencies.

New voices: Change or conflict may result when in-migrants provide, not new values, beliefs, and attitudes, but a "new voice" for already existing, but often unexpressed or suppressed, attitudes held by non-migrants or longer-term residents. The new voices hypothesis assumes a general greening process has been at work in rural areas

since the late 1960s-early 1970s.

Green migration: Builds on the tenets of the "new voices" and "cultural infusion" formulations, arguing that a general greening of America has led to greater support for environmental values and increased environmental activism in many rural areas. Green migration is a part of a national greening process that is gradually changing many rural communities in the United States.

Hypotheses.

Consistent with our review of the social bases of environmental concern literature, we hypothesize that younger, more educated, and more politically liberal residents of the watershed will exhibit higher levels of concern for environmental quality and protection than their older, less educated, and more politically conservative counterparts.

The migration literature generally points to sociodemographic differences between in-migrants to natural amenity rich areas and long-time residents, with in-migrants generally older, more educated, more well off financially, and with greater political and organizational skills and experiences than that of long-term residents. We hypothesize these same sociodemographic differences in the profile of rural in-migrants to the NLWA and the watershed's rural non-migrant population. Consistent with the migration literature as it pertains to public support for the environment, we expect to find in-migrants generally more pro-environment on a range of measures. These and other specific hypotheses are as follows:

H_1: Younger, more educated, and more politically liberal residents of the watershed will exhibit higher levels of concern for environmental quality and protection than their older, less educated, and more politically conservative counterparts.

H_2: In-migrants will be generally older, more educated, more well off financially, and more politically active than non-migrants.

H_3: In-migrants will be more likely than non-migrants to express and universalism (the value type most closely associated with environmental protection and a natural world of beauty) as a guiding principle in their life.

H_4: Non-migrants will be more likely than in-migrants to express tradition and conformity to social norm (value types most closely associated with compliance and the status quo) as guiding principles in their life.

H_5: In-migrants will hold a more pro-ecological world view than non-migrants.

H_6: In-migrants will have more pro-environmental attitudes than non-migrants.

H_7: In-migrants will exhibit less support for private development of public lands than non-migrants.

H_8: In-migrants will be more supportive of protecting public lands in order to preserve the environment than non-migrants.

H_9: In-migrants will have a higher level of interest in participating in pro-environmental activities than non-migrants.

$H_{10:}$ In-migrants will be more likely to participate in political or organizational activities than their non-migrant counterparts, i.e., they will be more likely to vote in local elections, attend public meetings held by government agencies, and be active in an organization that tries to improve or protect the natural environment.

The next chapter reports the findings of our research. We include an assessment of the social bases of support for environmentalism in the Norris Lake watershed, as well as hypothesized sociodemographic differences between in-migrants and non-migrants. We also closely scrutinize differences between rural in-migrants and non-migrants across several measures of environmentalism.

V
FINDINGS

The findings begin with an abridged description and comparison of the population and our sample of the residents of the Norris Lake Watershed Area (NLWA). Following this, we use several traditional sociodemographic variables to briefly examine the social bases of support for environmental quality in the watershed. The focus then shifts to a more detailed study of the watershed's rural population. We test the hypothesized differences in the sociodemographic profile of rural in-migrants to the watershed and its rural non-migrant population, along with the predicted differences in various dimensions of environmentalism between these two groups.

Comparative assessment of the population and the sample.

Table 3 compares certain sociodemographic features of the watershed's population and our sample.[12] Based on existing research, we expected that the sample would be comprised of adults who were somewhat older, more middle class, and with higher education levels than the population. These expectations stem from a sample that was restricted to households with listed telephone numbers, which tends to under-represent more transient (i.e., younger, poorer, less educated) populations. Middle income households should also be slightly over-represented in the sample as they tend to have a lower proportion of unlisted telephone numbers than lower and higher income

[12]As we noted in Chapter IV, data on race/ethnicity and religious preference were not used in this study.

Table 3
Selected population and sample characteristics of watershed residents

	Population[13]	Sample
Adult age groups		
18-34 years	28.3%	14.9%
35-64 years	53.3%	62.1%
65 years or more	18.4%	23.0%
Educational level		
Less than high school	39.2%	20.6%
High school graduate	33.6%	41.5%
Some college	17.7%	24.8%
College graduate or greater	9.5%	13.1%
Household income		
Less than $15,000	32.1%	21.0%
$15,000 - $24,999	18.4%	18.4%
$25,000 - $34,999	14.2%	19.4%
$35,000 - $49,999	14.3%	20.4%
$50,000 - $74,999	12.7%	13.9%
$75,000 or more	8.3%	6.9%
Gender		
Female	52.3%	52.6%
Male	47.7%	47.4%

households. We also expected that women would be over-represented because they tend to answer the telephone at a significantly higher rate, and so have higher participation rates in telephone surveys than men.

Table 3's figures show good approximations of our expectations. Older, more educated adults, women, and those from middle-class households are over-represented in the final sample, although not seriously so. While it is only possible to estimate the impact of sociodemographic differences between a population and its sample (see

[13]The sociodemographic information of the population of the NLWA is extracted from Jones et al (2000:26).

Chapter IV), we believe the sample adequately represents the general population and is suitable for our purposes here.

Social bases of support for environmental protection in the NLWA.

This section briefly addresses several sociodemographic variables in the environmental concern literature – age, education, income, occupation, gender, and political views – customarily associated with estimating environmental attitudes. Questions associated with the social bases variables discussed here are found in Appendix A. The general *environmental concern* variable we used to examine hypothesized differences in levels of support for environmental quality[14] was constructed by combining two measures (one local and one national) of concern for environmental quality. This resulted in a possible range of scores from 2 to 10, with higher scores indicating higher levels of concern (see Appendix D). The findings discussed below are summarized in Table 4.

We found no statistically significant differences for five of the six variables examined. Concerning *age*, the Pearson correlation coefficient is quite small, and statistically insignificant. Additionally, the association is positive, i.e, not in the predicted direction. We had expected to find that younger residents would show more concern over environmental quality than their older counterparts. As is the case with age,

[14]Test statistics used in the "social bases" analysis are a function of how the data were collected on the survey. A Pearson correlation coefficient was used to analyze the relationship between age and the dependent variable, environmental concern Spearman correlation coefficients were used to test the relationships between environmental concern and education and income levels. Occupational and gender differences were examined using a Student's t-test for equality of means. Political views were analyzed using ANOVA techniques.

Table 4
Social bases of support
for environmental protection
in the Norris Lake Watershed Area

Sociodemographic variables			Mean*
Age	Pearson's r = .015	Total mean all ages	8.94
Education	Spearman's rho = .009	< High school	8.90
		High school	8.94
		Some college	9.04
		College degree or higher	8.89
Income	Spearman's rho = -.033	<$15,000	8.74
		$15,000 - $24,999	9.00
		$25,000 - $34,999	9.19
		$35,000 - $49,999	9.05
		$50,000 - $74,999	8.91
		$75,000 or more	8.61
Employment	t = -.127	Natural resource extractive	8.93
		Not natural resource extractive	8.95
Employment	t = 1.535 [a]	Natural amenities based	9.28
		Not natural amenities based	8.93
Gender	t = -.408	Male	8.92
		Female	8.96
Political view	F = 6.509 [b]	Conservative Republican	8.42
		Moderate Republican	9.00
		Independent	9.10
		Moderate Democrat	9.13
		Liberal Democrat	8.93

Notes:

* Mean scores could range from 2 to 10, with higher scores indicating higher levels of concern.

a. While not statistically significant at the designated level (t = 1.535: $p < .07$), it is nonetheless noteworthy that those whose employment is natural amenity based are more concerned about environmental quality than those in other employment categories.

b. The statistical significance (F = 6.509: $p < .001$) derives from mean differences between conservatives and moderates/independents.

our results show no apparent association between *education* levels and a general pro-environmental attitude. The Spearman coefficient for our general measure of environmental concern is near zero. Our examination of *income* shows the Spearman coefficients are small, not statistically significant, and inverse. As income categories rise, general concern for environmental quality and a pro-environmental attitudes go down.

We examined two occupational categories routinely associated with the environmental concern literature, i.e., natural resource extractive industries and employment based on natural amenities. We expected to find differences in general concern for environmental quality between rural residents employed in extractive based industries (e.g., farming, ranching, timber, or mining) and those who are not. Our hypothesis that employment in these traditional extractive based jobs in rural areas would be associated with generally lower levels of concern for environmental protection was not supported by the data. Although the mean environmental concern scores were in the predicted direction, the difference was slight and could be due to chance. Likewise, our anticipation that employment based on natural amenities (e.g., outdoor recreation, wildlife management, environmental protection, eco-tourism) would be generally indicative of a more pro-environmental attitude was in the right direction, but the difference was statistically insignificant.[15] Concerning gender, we found women scored a bit higher than men on our general measure of concern for environmental quality, but the

[15]The non-statistical differences are likely influenced by the relatively small number of the watershed's residents employed in these two occupational areas, especially those whose employment is based on natural amenities. Out of all the residents answering these questions, 115/639 (18%) work in extractive based industries, and 32/641 (5%) work in areas associated with natural amenities.

difference was not statistically significant.

The self-ascribed *political view* of watershed residents in our sample was the one sociodemographic variable that was statistically significant ($p < .001$), although not quite for the reason (political liberalism) we hypothesized. The respondents were asked to place themselves in one of five categories: conservative Republican, moderate Republican, Independent, moderate Democrat, and liberal Democrat. Given the extraordinarily high statistical significance of the overall test, we almost certainly know that political ideology made a difference and that significant differences exist among these groups. To find out where these differences were, a post-hoc examination using Tukey's HSD[16] was used. Our follow-up comparison showed significant differences in levels of environmental concern between conservative Republicans (relatively low) and moderate Republicans, Independents, and moderate Democrats (each relatively high). Interestingly, the difference between the presumed polar opposites, conservative Republicans and liberal Democrats, is not as great as between the conservative Republicans and the independents and moderates, nor was it statistically significant. The data suggest anti-environmental attitudes on the part of political conservatives, rather than pro-environmental attitudes traditionally associated with political liberals, may be more important in predicting political support or non-support for pro-environmental issues.

Despite the lack of statistically significant support for hypothesized differences associated with age, education, and occupation (and in part to political ideology), it is

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[16]Tukey's Honestly Significant Difference Test, a post-hoc means test typically associated with ANOVA.

important to note relatively high mean environmental concern scores are associated with every category of every variable. On a scale with low to high levels of environmental concern that ran from 2 to 10, almost all of the means were between 8 and 9. In other words, the social base of support for environmental protection in the watershed is predominantly green. Most of the sociodemographic differences we found were not meaningful, and even in the case of political views, the statistical significant difference is seasoned somewhat by the social importance implied by generally high overall levels of support for environmental quality and protection.

In the next section we narrow our focus to hypothesized differences between rural migrant and rural non-migrant residents of the watershed. As outlined in Chapter IV, we will follow Stern et al's (1995) working conceptual model of environmentalism, which assumes several elements arranged in the following (abstract to concrete) causal sequence: sociodemographic indicators, motivational values, world view, general environmental concern, specific environmental concern, behavioral intentions/commitments, and behavior.

Sociodemographic comparisons of rural non-migrants and rural in-migrants.

In our examination of sociodemographic differences between rural in-migrants and rural non-migrants living in the watershed, we expected to find in-migrants to be older, more educated, better off financially, and less conservative than their non-migrant counterparts. To test these hypotheses we compared the two groups according to age, education, income, and political view. Our basic comparison contrasts lifetime rural

residents of the watershed with in-migrants to the watershed who live in rural areas. When appropriate, we split the in-migrant group into those who migrated to the area less than 10 years ago and those who migrated ten or more years ago to see if length of residence was a factor in explaining sociodemographic differences between the watershed's rural non-migrant population and its rural in-migrants.[17]

Age, education, and income. To begin the analysis, we ran t-tests to compare the means for the variables age, education, and income. In each case, three means comparisons were made: rural non-migrants to rural in-migrants; rural non-migrants to in-migrants who migrated less than 10 years ago; and rural non-migrant s to in-migrants who migrated 10 or more years ago. The data are presented in Table 5.

We found no statistically significant *age* differences between rural non-migrants and in-migrants. In general, each of the groups were middle aged, in their early 50s. We expected that in-migrants would tend to be older, a case partially borne out by the data. Rural in-migrants (51.9) were older, on average, by about a year and a half than their non-migrant (50.5) counterparts. The oldest group were in-migrants who arrived 10 or more years ago (53.5), while the youngest group were in-migrants who arrived less than 10 years ago (50.2).

There is strong support for the hypothesized *educational* differences between in-

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[17]Overall, we had 498 rural residents in our survey. Ns for each group are as follows: 381 rural non-migrants, 117 urban-to-rural migrants. When the 117 in-migrants were split into two groups we found 56 had migrated <10 years ago and 61 had moved 10 or more years ago. See also the "independent variable" discussion and Tables 1 and 2, Chapter IV.

We had some cases of watershed rural residents choosing to not answer or not being sure about how to answer certain of the survey questions. Concerning age, gender, and education, for example, virtually all the 498 rural residents answered. They were less forthcoming, however, about their political views (N=436) and income (N=394).

Table 5
Age, education, and income comparisons of rural in-migrants and rural non-migrants in the Norris Lake Watershed Area

Sociodemographic * indicators	In-migrants	Non-migrants	In-migrants (< 10 years)	In-migrants (10 years +)
Age	51.9	50.5	50.2	53.5 [a]
Education	2.64 [b]	2.21	2.65 [b]	2.62 [b]
Income	3.39 [c]	3.04	3.44 [c]	3.35 [c]

Notes:

* Age, education, and income means reflect age in years, four educational levels (higher means reflect more education), and six income categories (higher means reflect more income), respectively. See Table 4 and/or Appendix A.

a. When compared to non-migrants, the age difference is near the conventional level of significance ($t = 1.443$: $p < .08$).

b. In-migrants are significantly more educated than non-migrants ($t = 4.317$: $p < .001$). In-migrants (< 10 years) are significantly more educated than non-migrants ($t = 3.297$: $p < .001$). In-migrants (10 years +) are significantly more educated than non-migrants ($t = 3.174$: $p < .001$).

c. In-migrants have significantly higher income than non-migrants ($t = 1.968$: $p < .025$). In-migrants (< 10 years) have significantly higher income than non-migrants ($t = 1.675$: $p < .05$). In-migrants (10 years +) had higher incomes than non-migrants, although the difference did not reach the conventional statistical level of significance ($t = 1.295$: $p < .10$).

migrants and non-migrants. We expected to find in-migrants to the watershed more highly educated than non-migrants, and the predicted differences held across all comparisons. That is, when compared to their non-migrant counterparts, in-migrants as a whole and both of the split-migrant groups were substantially more educated. The differences stemmed from the combined effects of a disproportionate portion (67%) of the watershed's non-migrants with a high school education or less, and a relatively high portion (56%) of rural in-migrants with some college or a college degree and beyond.

While the differences were not so prominent with regard to *income*, rural in-

migrants to the watershed were relatively better off financially than the rural non-migrants in each of our three comparisons. All the differences were in the predicted direction. The overall, 2-group income comparison between rural in-migrants and non-migrants was statistically significant, as was the difference between the more recent migrants (<10 years) and non-migrants. Those in-migrants who moved 10 or more years ago also had higher incomes than the rural non-migrants living in the Norris Lake watershed ($p < .10$), although the difference could have been a chance occurrence.

Political views of rural in-migrants and rural non-migrants. The self-ascribed *political views* of rural in-migrants and rural non-migrants were quite similar. When we compared the overall migrant group to non-migrants (Table 6), we found in-migrants are more likely to describe themselves as moderates (Republican and Democrat) than non-migrants, although these differences were not statistically significant. Similarly, when we split the urban to rural in-migrants and compared the two groups with the rural non-migrants, the overall differences are not statistically significant. We do find, however, that the in-migrants who moved 10 or more years ago are a bit more liberal, labeling themselves as conservative and moderate Republicans less than expected, and as moderate or liberal Democrats more than expected (Table 7).

Table 6
Political views of in-migrants and non-migrants

Rural residents	Political views [a]					
	CR	MR	I	MD	LD	Total
Migrants	20 19.0%	14 13.3%	32 30.5%	32 30.5%	7 6.7%	105
Non-migrants	70 21.1%	61 18.4%	98 29.6%	83 25.1%	19 5.7%	331
Total [b]	90 20.6%	75 17.2%	130 29.8%	115 26.4%	26 6.0%	436

Notes:

a. Political views are as follows: Conservative Republicans (CR), Moderate Republicans (MR), Independents (I), Moderate Democrats (MD), and Liberal Democrats (LD).

b. No cells (0%) have an expected count < 5. The minimum expected cell count is 6. The Pearson Chi-square value is not significant ($X^2 = 2.39$: $p > .66$)

Table 7
Political views of in-migrants (split group) and non-migrants

Rural residents	Political views					
	CR	MR	I	MD	LD	Total
Migrants (<10 years)	11 21.6%	9 17.6%	16 31.4%	13 25.5%	2 3.9%	51
Migrants (10 + years)	9 16.7%	5 9.3%	16 29.6%	19 35.2%	5 9.3%	54
Non-migrants	70 21.1%	61 18.4%	98 29.6%	83 25.1%	19 5.7%	331
Total [a]	90 20.6%	75 17.2%	130 29.8%	115 26.4%	26 6.0%	436

Notes:

a. Two cells (13%) have an expected count < 5. The minimum expected cell count is 3. The Pearson Chi-square statistic is not significant ($X^2 = 5.98$: $p > .64$).

Values, world views, and environmental concern.

This discussion centers on hypothesized differences in different dimensions of environmentalism in the rural population of the Norris Lake watershed. We expected in-migrants to value the environment significantly more, to have a more ecological world view, and to have a higher general level of concern for environmental quality than non-migrants. As discussed previously (Chapter 4), we use Stern et al's (1995) simplified model of environmentalism as a guide to incorporate Schwartz's (1996) theory of integrated value systems, Dunlap et al's (2000) New Ecological Paradigm (NEP), and several other facets of environmentalism.

Values. Ten value types (Appendix B) were used to discriminate between motivational values of the in-migrant and non-migrant populations in the watershed. We focused on the four motivational values that best approximate value orientations commonly attributed or assumed to be associated with in-migrants and non-migrants living in rural America. Specifically, we expected to find that in-migrants to the watershed would more strongly identify with *universalism* as a guiding principle in their life (Q50); universalism is the value orientation most closely linked to environmental protection and a natural world of beauty. Conversely, we anticipated that non-migrants would register more support for *personal success and achievement*, *conformity*, and *tradition* as guiding principles; these value orientations are most closely associated with achievement and competence according to conventional social standards, the acceptance of the status quo and respect for established ways, and conformity to social norms and expectations (Q51, 53, 54), respectively.

For this part of the analysis, we conducted t-tests to compare means on these four value orientations. We found partial support for our hypotheses, the results of which are summarized in Table 8. The hypothesis that in-migrants would attach significantly more value to the natural world and its protection than non-migrants was not supported.

Overall, our in-migrant and non-migrant groups attached high and virtually equal importance on protecting the welfare of people and nature as a guiding principle in their life (Q50). We can see all groups assigned a mean value to this question of about 4.5, indicating remarkably strong appreciation and concern for the natural world. While the

Table 8
Certain motivational value orientation comparisons of rural in-migrants and rural non-migrants in the Norris Lake Watershed Area

Motivational values *	In-migrants	Non-migrants	In-migrants (< 10 years)	In-migrants (10 years +)
Q50: Protect welfare of people and nature	4.53	4.56	4.57	4.49
Q 51: Personal success and achievement	3.95 [a]	4.18	4.02	3.88 [b]
Q53: Conform to social norms	2.69 [c]	3.09	2.84	2.53 [d]
Q54: Accept traditional customs	3.67	3.86	3.67	3.67

Notes:

* Mean scores range from 1-5, where 5 is "extremely important" and 1 is "not important at all."

a. In-migrants assigned a significantly lower value to personal success and achievement as a motivating factor in their personal life ($t = -1.95$: $p < .03$) than non-migrants.

b. In-migrants (10 years +) valued personal success and achievement significantly less as a motivating factor in their personal life ($t = -1.91$: $p < .03$) than non-migrants.

c. In-migrants assigned a significantly lower value to conformity to social norms as a motivating factor in their personal life ($t = -2.67$: $p < .008$) than non-migrants.

d. In-migrants (10 years +) valued conformity to social norms significantly less as a motivating factor in their personal life ($t = -2.78$: $p < .006$) than non-migrants.

mean differences are statistically insignificant, it is important to note that all these groups strongly value protection of the environment.

On the other hand, we did find that non-migrants generally place more importance on the three value orientations that are most closely linked to support for prevailing social conventions and expectations. Non-migrants maintained that personal achievement (Q51) and conformity with social norms (Q53) are significantly more important as a guiding principle in their lives than did in-migrants. The group difference concerning the acceptance of traditional customs (Q54) is not statistically significant, but is in the predicted direction.

Before we left our examination of these four particular value orientations, we also briefly explored how they fit within the complete (10-value) integrated value systems set. When all the value orientations for in-migrants and non-migrants are rank ordered, a pattern emerges that shows the motivational values of the two groups are hierarchically alike. A glance at Table 9 shows the relative positions of motivational values for in-migrants are nearly interchangeable with those for non-migrants. We see that the three most important and four least important values for in-migrants are also the three most important and four least important values for non-migrants. In fact, except for a minor juxtaposition of two motivational values near the center of the table (Q51/personal success and Q57/exposure to new challenges), the rank order of the ten value domains are the same for each group. That is, the overall motivational value structure of in-migrants and non-migrants are all but identical. And, as we noted above, both groups rank environmental quality and protection of the natural world (Q50) high in that value

Table 9
Ranked motivational values
of rural in-migrants and rural non-migrants
in the Norris Lake Watershed Area

Motivational values *	In-migrant means (rank order)	Non-migrant means (rank order)
Q55: Safety and security	4.65 (1)	4.70 (1)
Q50: Protect welfare of people and nature	4.53 (2)	4.56 (2)
Q56: Acquire independent thinking	4.44 (3)	4.50 (3)
Q57: Exposure to new challenges	4.09 (4)	4.14 (6)
Q49: Preserve and enhance welfare of acquaintances	3.96 (5)	4.16 (5)
Q51: Personal success	3.94 (6)	4.18 (4)
Q54: Accept traditional customs	3.67 (7)	3.85 (7)
Q52: Personal pleasure	3.50 (8)	3.72 (8)
Q53: Conform to social norms	2.68 (9)	3.08 (9)
Q48: Control over people and resources	2.40 (10)	2.52 (10)

Notes:
* Mean scores range from 1-5, where 5 is "extremely important" and 1 is "not important at all."

structure; only safety and security (Q55) rank higher.

New ecological paradigm (NEP). For our next dimensional indicator of environmentalism, we constructed an NEP index[18] of Dunlap et al's (2000) NEP scale to examine differences in the world views of rural in-migrant and non-migrant groups living in the Norris Lake watershed (Table 10).

[18]A subset of 8 of 15 items; see Appendix C.

Table 10
NEP comparisons
of rural in-migrants and rural non-migrants
in the Norris Lake Watershed Area

NEP*	In-migrants	Non-migrants	In-migrants (< 10 years)	In-migrants (10 years +)
NEP Index	**3.65** [a]	**3.55**	**3.70** [b]	**3.60**
Q40: Approaching population limits	3.38	3.56	3.61	3.18
Q41: Right to modify natural environment	3.72	3.33	3.77	3.67
Q42: Human ingenuity	3.20	2.96	3.25	3.15
Q43: Humans abusing the environment	4.48	4.39	4.36	4.60
Q44: Earth like a spaceship	3.76	3.71	3.91	3.62
Q45: Human dominion over nature	3.36	2.99	3.54	3.19
Q46: Humans will control nature	3.63	3.54	3.48	3.77
Q47: Coming eco-catastrophe	3.95	3.84	4.21	3.70

Notes:

* Mean scores range from 1-5, with higher scores indicating a more pro-ecological view of the human relationship with the environment.

a. While the difference was not quite statistically significant at the conventional level, in-migrants had an appreciably more ecological world view than non-migrants ($t = 1.41$: $p < .08$).

b. In-migrants (< 10 years) were significantly more pro-ecological in their view of the relationship between humans and the environment than non-migrants ($t = 1.66$: $p < .05$).

As we read across the NEP Index line at the top of Table 10, we see some support for the hypothesized differences between our comparison groups. All the differences we found are in the right direction. That is, in every comparison in-migrants indicate a more pro-ecological view of the world than non-migrants. Although the mean difference between in-migrants and non-migrants is not statistically significant, it is close enough ($t = 1.41$: $p < .08$) that we can reasonably infer a moderately strong difference between the ecological world view of the two groups. A significant difference in our NEP Index did surface when we split the in-migrant group; here we see a statistically significant variation between the more recent in-migrants and non-migrants ($t = 1.66$: $p < .05$).

Alternatively, when we examined the means for each of the eight NEP Index items, we found most mean scores for all the groups on each question to be at or above 3.5. We see that, with some minor exceptions, in-migrants and non-migrants alike have a pro-ecological stance. There is consensus from all groups on the questions of human abuse of the environment (Q43) and the issue of human ingenuity (Q42) as insurance against making Earth unlivable. That is, each group had the highest average level of agreement with the statement that humans are severely abusing the environment, and each group had the lowest level of agreement that human inventiveness is an adequate preventive prescription for an eco-crisis.[19]

General environmental concern. Our attitudinal measure of general concern for environmental quality combined a watershed-specific question and a wider question

[19]Because we used the NEP Index to test for differences between in-migrants and non-migrants in our model, we have not reported statistical differences for individual index items.

about concern over national environmental issues. This resulted in a summed score that ranged from 2 to 10, with higher scores indicating higher environmental concern (see Appendix D). As was the case with our NEP index measure, we found broad general support for a significantly higher levels of concern among in-migrants to the Norris Lake watershed.

All of our group comparisons (summarized in Table 11), were in the predicted direction. The mean difference associated with the in-migrant/non-migrant comparison was statistically significant. While the two remaining comparisons did not reach statistical significance, the differences between the non-migrants and more recent migrants ($t = 1.27$: $p < .10$), and between non-migrants and the in-migrants who moved to the watershed 10 or more years ago ($t = 1.54$: $p < .06$) were nonetheless telling. On balance, in-migrants to the watershed are more supportive of environmental protection than non-migrants.

At the same time, an examination of the mean scores indicate high overall concern for environmental protection and a generally pro-environmental attitude for each group. That is, despite statistically significant differences in mean levels of environmental concern, all groups scored well toward the pro-environmental end of the summated scale.

Specific environmental concern: Development. Newcomers to rural areas have generally been associated with more pro-environmental views than longer-term rural residents, and as well as a tendency to oppose growth and resource development. To test these hypotheses, we selected five questions (Appendix E) from the survey that posed various trade-offs between private development of public lands in the Norris Lake

Table 11
Environmental concern mean score comparisons of rural in-migrants and rural non-migrants in the Norris Lake Watershed Area

Environmental concern *	In-migrants	Non-migrants	In-migrants (< 10 years)	In-migrants (10 years +)
General concern	9.08 [a]	8.82	9.05 [b]	9.10 [c]

Notes:

* Mean scores range from 2-10, with higher scores indicating a more concern for the environment.

a. When compared to non-migrants, in-migrants showed significantly more concern for environmental quality ($t = 1.90$: $p < .03$).

b. When compared to non-migrants, in-migrants (< 10 years) showed appreciably higher concern for the environment, although the difference did not reach statistical significance ($t = 1.27$: $p < .10$).

c. In-migrants (10 years +) likewise indicated higher concern for environmental quality than non-migrants, although the difference did not quite reach statistical significance ($t = 1.54$: $p < .06$).

watershed against protection of public lands from private development.

The analysis, summarized in Table 12, is based on t-test comparisons of mean scores between in-migrants and non-migrants living in the Norris watershed. We found only partial support for the general hypothesis that in-migrants would be more opposed to development and more protective of the environment when compared to rural non-migrants.

Regarding the opening up public lands in the Norris Lake watershed to private development (Q35, Table 12), we found only one of the in-migrant groups (those who migrated less than 10 years ago) to be significantly more opposed to development than non-migrants. And, when we compared in-migrants who moved to the watershed 10 or more years ago with non-migrants, we found them slightly more pro-development.

On the question of protecting public lands from private development (Q39), in-migrants were significantly more in favor of environmental protection in two of our three

Table 12
Private development versus environmental protection: Mean comparisons of in-migrants and non-migrants in the Norris Lake Watershed Area

Private development of public lands *	In-migrants	Non-migrants	In-migrants (<10 years)	In-migrants (10 years +)
Q35: Public lands should be open to developers	4.03	3.92	4.20 [a]	3.89
Q36: Public lands should be open to developers only if necessary to sustain local economic growth	3.11	2.90	3.16	3.07
Q37: Public lands should be open to developers only if it does not threaten fish and wildlife habitat	2.33	2.50	2.36	2.31
Q38: Public lands should be open to developers only if it does not degrade the quality of life in the surrounding community	2.18	2.38	2.29	2.08
Q39: Public lands should be protected to preserve the environment	4.85 [b]	4.72	4.93 [c]	4.77

Notes:

* Mean scores range from 1-5. Higher scores on Q35-Q38 reflect less support for private development of public lands in the watershed. Higher scores on Q39 reflect greater support for protecting public lands in order to preserve the environment.

a. In-migrants (<10 years) are significantly less supportive of private development of public lands ($t = 1.53$: $p < .05$) than non-migrants.

b. In-migrants are significantly more supportive of protecting public lands to preserve the environment ($t = 2.121$: $p < .02$) than non-migrants.

c. In-migrants (<10 years) are significantly more supportive of protecting public lands to preserve the environment ($t = 4.053$: $p < .001$) than non-migrants.

comparisons. This especially was the case with in-migrants who relocated to the watershed less than 10 years ago. On the other hand, about half of comparisons (e.g., Q37, 38) suggest that rural non-migrant residents may actually be less supportive of development and more protective of the environment in the Norris area, although the differences are not statistically significant. These cases, indicated by their lower mean scores for in-migrants when compared to non-migrants, involve conditional trade-offs between development and threats to animal habitats and the degradation to the quality of life in the community.

Table 12 also points to common ground between in-migrants and non-migrants on the linked questions of development and environmental protection. Questions 35 to 38 address the private development of public lands. Higher scores on these questions indicate less support for private development of public lands and, presumably, more support for their protection in order to preserve the environment.

Alternatively, question 39 specifically addresses the issue of protecting public lands to preserve the environment. On this question, higher scores point to more support for environmental protection, and less support for private development of public lands in the watershed.

The highest scores for each group are for questions 35 and 39, while mean scores for the conditional development questions in the center of the table tend more toward uncertainty. Both in-migrants and non-migrants took positions that are generally anti-development when asked about unconditionally opening up public lands in the watershed to private development (Q35), although in-migrants seem less supportive. All groups

were guarded about employing private development of public lands as a way to sustain the local economy (Q36), although, again, in-migrants were less supportive overall. On the other hand, all groups see development as increasingly acceptable as protections for wildlife and human quality of life become part of their mental calculus. Finally, in-migrants and non-migrants alike are unquestionably green on the matter of protecting public lands to preserve the environment (Q39).[20]

Behavioral intentions. The measurement of behavioral intentions can, at best, only be approximated given the data set derived from the original survey. Of the various environmentalism measures proposed by the simplified Stern, et al (1995) model, our survey did not collect information on pro-environmental behavior *per se*, nor on behavioral intentions that might be linked to it.

Nonetheless, we do have data on rural residents who expressed an interest in participating in three activities associated with the environmental well-being of public lands and waters in the Norris Lake watershed. Specifically, we looked at interest in three areas: improving fish and wildlife habitats; improving recreational management; and in being involved in a citizen-based watershed coalition to address natural resource issues in the watershed. While these measures of interest in participating in environmentally related behavior do not imply specific behavioral intent, we will use them here as surrogate indicators of behavioral intentions.

We measured interest in participation on a Likert-type scale of 1 to 4, with higher

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[20]As an exploratory measure, we collapsed the four development questions (Q35-Q38) into a development index. This had the effect of masking all differences; with 12 as the midpoint of a 4-20 scale, all mean scores were between 11.3 and 12.0. None of the mean comparisons were statistically significant.

scores equating to higher levels of interest. The original survey questions on interest in participation in pro-environmental activities are at Appendix F. We expected to find higher levels of interest on the part of the watershed's rural in-migrants when compared to the interest levels of non-migrants. The results of these findings are summarized at Table 13.

All of the mean scores indicate slight to moderate interest in participation in environmentally related activities, and none of the differences are statistically significant. At the same time, we see consistently lower levels of interest on the part of both in-migrants and non-migrants regarding their political involvement in a watershed coalition, i.e., both groups showed less interest in participating in a political coalition on natural resources issues (Q20), than they did in involvement in improving fish and wildlife habitat and in recreational management.

Table 13
Interest in participation in environmentally related activities: Mean score comparisons of rural in-migrants and rural non-migrants in the Norris Lake Watershed Area.

Activity*	In-migrants	Non-migrants	In-migrants (<10 years)	In-migrants (10 years +)
Q18: Improvement of fish and wildlife habitat	2.89	2.92	2.98	2.81
Q19: Improvement of recreational management	2.94	2.91	3.04	2.85
Q20: Involvement in citizen-based coalition on natural resource issues	2.50	2.59	2.48	2.51

Notes:
* Mean scores range from 1-4, with higher scores reflecting more interest in participating in environmentally related activities.

Political behavior variables. We then looked at three indicators of political behavior – voting, attendance at public political meetings, and active membership in an environmental group (Appendix G) – expecting to find evidence of a more politically active group of in-migrants. When we cross-tabulated rural in-migrants to the watershed with non-migrants on the question of whether or not they usually *vote* in local elections (Table 14)[21] our chi-square test statistic was near zero, a strong indication the two variables are independent of each other. In general, about 80 percent of all rural residents said they usually did vote on local issues, regardless of whether or not they were migrants. Overall, then, being an in-migrant or non-migrant had little to do with whether

[21]When we split the in-migrant group we did find that in-migrants (10 years +) somewhat more likely to vote than non-migrants, but the difference was not statistically significant.

Table 14
Local voting: In-migrants and non-migrants

Rural residents	Yes	No	Total
Migrants	94 80.3%	23 19.7%	117
Non-migrants	303 79.7%	77 20.3%	380
Total *	117	100	497

Notes:
* No cells (0%) have an expected count < 5. The minimum expected cell count is 23. The Pearson Chi-square statistic is not significant (X^2 = .02: p > .88).

or not one usually voted in local elections.

We next looked at two examples of political behavior that generally require more commitment than voting. When asked about *attendance at public political meetings* and *active membership in an organization* that tries to improve or protect the natural environment (Tables 15 and 16), we see an expected drop in the frequency of actual political participation. Whereas 80 percent of all the watershed's rural residence reported usually voting in local elections, about 30 percent reported ever attending a public forum or meeting held by a government agency. Active membership in a pro-environmental organization was reported by about 15 percent of the residents, regardless of whether they were a non-migrant or in-migrant.[22] As we found in the case of voting behavior, being an in-migrant had no effect on whether or not rural residents of the watershed had attended public political meetings or were politically active in a pro-environmental organization.

[22]As was the case with reported voting behavior (footnote 21), the rural in-migrants (10 years +) were a little more likely than non-migrants to have attended a public political meeting and to have been an active participant in an environmental group, although not significantly more.

Table 15
Attendance at public meetings: In-migrants and non-migrants

Rural residents	Yes	No	Total
Migrants	35 29.9%	82 70.1%	117
Non-migrants	106 28%	272 72%	378
Total *	141 28.5%	354 71.5%	495

Table Notes:
* No cells (0%) have an expected count < 5. The minimum expected cell count is 33. The Pearson Chi-square statistic is not significant (X^2 = .154: p > .69).

Table 16
Active member of an environmental group: In-migrants and non-migrants

Rural residents	Yes	No	Total
Migrants	21 17.9%	96 82.1%	117
Non-migrants	52 13.7%	327 86.3%	379
Total *	73 14.7%	423 85.3%	496

Notes:
* No cells (0%) have an expected count < 5. The minimum expected cell count is 17. The Pearson Chi-square statistic is not significant (X^2 = .1.273: p > .25).

This concludes our analysis of the findings. We have reported briefly on the social bases of support for environmental protection in the general population of the Norris Lake watershed area. We also reported on hypothesized differences in the sociodemographic profile of rural in-migrants to the watershed and its rural non-migrant population, along with the predicted differences in various dimensions of environmentalism between these two groups.

Chapter VI provides a summary of the findings, conclusions we reach based on our findings, and some implications for future research.

VI
SUMMARY, CONCLUSIONS & IMPLICATIONS

This chapter summarizes and draws conclusions from literature reviews covering the period 1970-2000 on the social bases of environmentalism and rural-urban migration patterns, and the results of our analysis of support for environmental protection in the Norris Lake watershed area in East Tennessee. We will first briefly address several standard sociodemographic indicators of concern for environmental quality in the general population of the Norris Lake watershed. We then narrow the focus to the principal target groups of this study, rural in-migrants and rural non-migrants. The in-migrant/non-migrant discussion first speaks to sociodemographic comparisons between these two groups of rural residents. We then draw some conclusions in light of various theoretical explanations for predicted differences in certain measures of environmentalism between rural in-migrants and non-migrants, and the implications for further research.

Summary of the findings.

We found a strong base of support for environmental protection in the *general population* of the Norris Lake watershed. There was little variation in a range of standard *sociodemographic indicators* of concern for environmental quality – age, education, income, employment, occupation, and gender. Being a political conservative is associated with a significantly lower level of concern for the environment. Regardless of whether or not statistical differences were indicated, we found generally high levels of

support for environmental protection across all our sociodemographic indicators.[23]

Sociodemographics: In-migrants and non-migrants. When we narrowed our analysis to *rural* areas in the watershed and began to compare *in-migrants* with *non-migrants*, some differences arose. As expected, the rural in-migrant and rural non-migrant populations of the Norris Lake watershed have *different sociodemographic profiles*. Education is the most prominent disparity between the two groups, with statistically significant differences found in all comparisons of in-migrants and non-migrants. The watershed's in-migrant residents are clearly more educated than its non-migrant population. Although not as striking as educational differences, income levels are significantly higher for in-migrants, as well. In-migrants are older, on average, than non-migrants, although the age difference could be attributable to chance. The political views of in-migrants and non-migrants are similar, i.e., moderate to conservative, and statistically indistinguishable.[24]

Environmentalism: In-migrants and non-migrants. We measured several facets of *environmentalism* – values, world view, general environmental concern, issue-specific environmental concern, behavioral tendencies, and behavior – in our in-migrant/non-migrant comparisons.

As a *motivational value* in their life, in-migrants and non-migrants assigned equally high, and statistically equivalent, importance to environmental care and protection. On the other hand, non-migrants were significantly more likely than in-

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[23]For a tabular summary, see Chapter V, Table 4.

[24]For a tabular summary, see Chapter V, Tables 5 - 7.

migrants to identify personal achievement and conformity as motivating factors in their lives. Overall, the structural arrangement of the ten value orientations for in-migrants and non-migrants is nearly identical.

When we examined beliefs about the relationship between humans and the environment, we found that, on balance, in-migrants had a *more pro-ecological world view* (NEP), although the only statistically significant difference was between the most recent in-migrant group and non-migrants. On our *general environmental concern* item, in-migrants were significantly more concerned than non-migrants about environmental quality.

Our analysis of a *specific environmental concern* issue – development versus environmental protection – suggests neither group sees the question as an "either/or" choice. In-migrants and non-migrants generally oppose indiscriminate access by private developers to public lands. Both groups are strongly inclined to favor environmental preservation and protection, but each indicated willingness to accept some level of trade-off development. Overall, in-migrants are significantly more supportive of protecting public lands to preserve the environment, and the more recent in-migrants are the most anti-development and most pro-environment of the groups we examined.

Our comparison of in-migrant and non-migrant *interest in participation* in three environmentally-related activities showed us no statistically significant differences between the two groups. When we examined *actual behavior*, we found little support for the hypothesis that in-migrants would be more politically active or more involved with pro-environmental groups than non-migrants. The data show the same pattern of drop-

offs in reported participation in our indicators of political activity, i.e., both groups usually vote more than they attend public political meetings, and attend political meetings more than they are politically active in groups promoting environmental issues. Similarly, we found rural in-migrants no more likely to have voted in a local election, to have attended a public political meeting, or to be an active member of a pro-environmental group than rural non-migrant residents in the watershed. The homogeneity of the watershed's rural residents on the question of political involvement is surprising. In-migrants have a number of characteristics (e.g., relatively higher education, income, and to some degree, age) that are normally associated with increased levels of engagement in the political system, and yet the two groups are remarkably similar in this regard.

The key points of the in-migrant/non-migrant summary are recapitulated in Table 17, which highlights meaningful and statistically significant differences between the two groups on certain sociodemographic indicators and several facets of environmentalism.

Table 17
Sociodemographic and substantive environmentalism comparisons of rural in-migrants and non-migrants in the Norris Lake Watershed area

Variables	In-migrants and Non-migrants	In-migrants (<10 years) and Non-migrants	In-migrants (10 years +) and Non-migrants
	Sociodemographic variables		
1. Age			$p < .08$ [a]
2. Gender			
3. Education	$p < .001$ [a]	$p < .001$ [a]	$p < .001$ [a]
4. Income	$p < .025$ [a]	$p < .05$ [a]	$p < .10$ [a]
5. Political views			
	Substantive variables		
6. Values			
a. Protect welfare of people and nature			
b. Personal success and achievement	$p < .03$ [b]		$p < .03$ [b]
c. Conform to social norms	$p < .008$ [b]		$p < .008$ [b]
d. Accept traditional customs			
7. NEP/World view	$p < .08$ [c]	$p < .05$ [c]	
8. General environmental concern	$p < .03$ [d]	$p < .10$ [d]	$p < .06$ [d]
9. Specific environmental concern			
a. Private development of public land		$p < .05$ [e]	
b. Develop public land if necessary to sustain local economy			
c. Develop public land if no threat to fish and wildlife habitat			
d. Develop public land if no degradation of quality of life			
e. Protect public land to preserve the environment	$p < .02$ [f]	$p < .001$ [f]	

10. Pro-environmental behavioral tendencies
    a. Improvement of fish and wildlife habitat
    b. Improvement of recreational management
    c. Involvement in citizen-based coalition on natural resource issues
11. Behavior
    a. Voting in local elections
    b. Attendance at political meetings
    c. Active member of environmental group

Notes:

a. All p values indicate higher age in years and higher educational and income levels for in-migrants when compared to non-migrants.
b. All p values indicate lower values as a motivating force in their life for in-migrants when compared to non-migrants.
c. All p values indicate in-migrants have a more pro-ecological world view than non-migrants.
d. All p values indicate in-migrants are more pro-environment than non-migrants.
e. All p values indicate in-migrants are less supportive of private development of public lands.
f. All p values indicate in-migrants are more supportive of protecting public lands to preserve the environment.

Conclusions.

This section addresses the conclusions we reached regarding (a) the social bases of environmental concern in the general population of the watershed, and (b) differences between rural in-migrants and non-migrants regarding certain sociodemographic variables and several facets of environmentalism.

A broadening social base of environmental concern? We can reasonably conclude there is a *broad social base of support for green issues* in the Norris Lake watershed. The social underpinnings for environmental protection and concern for environmental quality in the Norris Lake area seem generally sound and, to some extent,

bridge the social fault lines traced by standard sociological variables such as age, gender, income, education, and occupation. With the possible exception of political ideology, we find a remarkable pro-environmental like-mindedness in the Norris Lake area's general population. Overall we see a *broader social base of support for environmental protection than the literature suggests and evidence of the growth of green values in rural America.*

The conclusion that there is a broad social base of support for environmental protection in the watershed is consistent with reporting since the 1970s of persistent pro-environmental attitudes in the country at large. It also makes sense in the context of the biophysical characteristics of the NLWA – a relatively pristine and bio-diversified natural area with a moderate climate and low population density. For good reasons then, the Norris Lake area is an increasingly popular destination for a wide range of outdoor recreationists, seniors, and aging baby boomers who move to the Southern Appalachians to retire. But a *broad social base* of support for environmental protection is different than a *broadening social base*, which is what our findings point to.

In drawing this conclusion, we must note several caveats. First, our results are inconsistent with earlier research (and our hypothesis, as well) that generally indicates higher levels of support for environmental values in younger, more educated, and politically liberal populations (Jones & Dunlap 1992; see also Van Liere & Dunlap 1980; Greenbaum 1995). Our sample under-represented the 18-34 year old age group and slightly over-represented older age groups, which could have biased our findings. It is also possible our findings may not be generalizable to larger, more heterogeneous populations that are typically sampled in national level surveys (e.g., Jones & Dunlap

1992). Second, while the social support base for environmental protection in the Norris Lake area appears decidedly green and widely established, our study does not address the depth, intensity, or salience of pro-environmental attitudes in this population. Finally, given the conceptual fuzziness and well documented equivocal nature of "the environment" as an attitude object (Dunlap & Jones 2001; Stern et al 1995; Jones & Dunlap 1992; Heberlein 1981), we should not put too much stock in general, stand-alone attitudinal measures of environmental concern.

These qualifications aside, we are comfortable concluding that in the NLWA older adults, the less educated, and (to a lesser extent) political conservatives are at least as concerned about the environment and its protection than their respective counterparts. Overall, the fact that so many watershed residents are concerned about environmental issues generally, and local issues in particular, is a positive sign. Surely a widespread high level of concern for environmental quality among the adult population of the watershed is essential information for natural resource planners and policy makers, particularly those interested in citizen involvement in watershed management. It is also useful for governmental agencies and environmental groups with a stake in natural resource management issues in the watershed.

Our findings lend support to the proposition of a broadening of the social bases of public support for the environment. We advise caution, however, in generalizing these findings to all rural areas. Southern Appalachia has distinct economic, environmental, and cultural conditions that may not be well approximated in rural areas in other regions such as the West, the desert Southwest, or New England. Other areas that would be in

question include remote rural areas or rural areas still primarily dependent on extractive based industry or agriculture.

Sociodemographics: In-migrants and non-migrants. There is little doubt *these two groups of rural residents are significantly different with regard to income and, especially, education*; these findings are consistent with a general pattern found in the migration literature. *In-migrants and non-migrants* are statistically the *same age* (mid-life) and have *highly uniform political views* (moderate to conservative).[25] These findings are meaningful, given linkages between these variables and certain expressions of environmentalism and the likelihood of continued domestic migration to the South in general, and rural areas and small town America especially. The South is one of the fastest growing regions in the United States; Southern Appalachia is one of the fastest growing parts of the South, and has been favored as a retirement area for the past 25 years.

The NLWA's population grew primarily through net domestic migration gains throughout the 1990s and, should this trend continue, population growth in and around the watershed will come in large part from in-migration. The composition of the watershed area, a predominantly rural area, will likely continue to gradually change due to in-migration. More affluent, more educated, and for the most part politically conservative in-migrants will bring with them leadership and organizational skills, along with quality

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[25]We should note East Tennessee is politically conservative, and the "political center of gravity" of rural residents in the Norris Lake watershed appears skewed to the right. The rightish bias is reflected in Republicans (in-migrant and non-migrant) disproportionately identifying themselves as "conservative Republicans" and Democrats (in-migrant and non-migrant) disproportionately identifying themselves as "moderate Democrats."

of life preferences and environmental values that will precipitate change. The resultant shift in demographics and other factors will increase contact not only between in-migrants and non-migrants, but between in-migrants and private and public organizations with environmental interests and agendas.

The sociodemographic differences between in-migrants and non-migrants corroborates reporting in related research that the constituent makeup of rural areas may be gradually changing due to in-migration. There is empirical support for the belief that in-migration may lead to conflict in rural areas over environmental issues. But it is hardly a foregone conclusion that migration-associated conflict in rural communities is the only possible outcome, or that conflict is restricted to the clash of different cultural values held by newcomers and longer-term residents. While sociodemographic indicators are necessary to understanding differences between in-migrants and non-migrants, they are not sufficient to discriminate between those who are pro-environment and those who are not. To better estimate differences in environmentalism between rural in-migrants and non-migrants, we must address how these two groups compare in their relation to the physical environment.

Environmentalism: In-migrants and non-migrants. The first three facets in our environmentalism model – *values, world view, and environmental concern* – are the most abstract of the six. We expected to find in-migrants more pro-environment than non-migrants on how highly they *valued* environmental protection, the degree to which their *world view* was ecological, and their *general level of environmental concern.* While both groups strongly favor environmental protection, on balance in-migrants are more pro-

environment than non-migrants. Environmental protection is a highly prioritized and equally motivating value for in-migrants and non-migrants alike, and they share an overall value structure that is nearly identical. In-migrants have a moderately more pro-ecological world view than non-migrants, and are significantly more concerned about environmental quality in general than non-migrants.

A word of caution is appropriate here. When we examined the protection of the environment as a motivating value, the survey asked how important it was "to appreciate and protect the welfare of all people and nature," which does not isolate the value attributed to the natural environment. The imprecision in the Schwartz's (1992) original wording is understandable, as he uses it to operationalize "universalism" as a value type (see Chapter IV and Appendix B). Regardless, it raises the basic validity question of whether or not we are measuring what we think we are measuring. Additionally, our use of an abridged version of the NEP Scale probably tempered our findings. Given the NEP's robust internal consistency, had we been able to employ the complete scale it is likely that the differences we did find would have been more pronounced (see Chapter IV and Appendix C).

Having said that, our findings clearly show both in-migrants and non-migrants are pro-environmental, although in-migrants are more so. There is little support for the *culture clash* hypothesis, which assumes in-migrants to rural areas bring with them from more urban areas value orientations, general beliefs, and attitudes that are significantly at odds with those held by non-migrants. We did not find this to be the case; rather, we found a high degree of conformity in the value systems of the groups, and both in-

migrants and non-migrants ranked the value of the natural environment equally high.

Even with the significant differences we did find between in-migrants and non-migrants concerning their respective ecological world view and general environmental concern measures (as anticipated by H_5 and H_6), it appears the two groups share more common ground with regard to their values than assumed by proponents of the culture clash paradigm. The similar pro-environmental bent we found both groups to have is consistent with the idea of growing environmental values in rural places. Our findings parallel Jones et al's (2001) concept of *green migration* that assumes a general greening of America has contributed to greater support for environmental values in rural areas. Our data are also in line with the *new voices* argument made by Fortmann and Kusel (1990:227) that, because a "general greening of America" has all but extinguished rural-urban differences in environmental values, newcomers can and do amplify already existing environmental values in rural areas, rather than importing a new set of values and beliefs to those areas. Likewise, these findings lend partial support to Blahna's (1990) *cultural infusion* argument, with its notion that in-migrants may find themselves aligned with non-migrants on issues oriented toward environmental protection.

The last three facets of our environmentalism model – development, behavioral intent, and behavior – are the more concrete of the six. We anticipated that in-migrants would *favor environmental protection over development* more than non-migrants, would be *more committed* to future involvement in environmentally related activity, and be *more politically active*. While both groups are unmistakably pro-environment on questions of protecting public lands to preserve the environment and opening up public lands for

unrestricted development, in-migrants, especially the more recent group of arrivals, are significantly greener on these "either/or" issues than non-migrants. Both groups are equally lukewarm about intent or commitment to support activities that promote environmentalism. In-migrants and non-migrants equally and highly politically active, as measured by local voting (~80%), attendance at public meetings (~30%), and active membership in an environmental group (~15%).

As we addressed the "environment versus development" question, we found some statistically significant differences between in-migrants and non-migrants, along with a pattern of sameness, that bear on the *gangplank* hypothesis. This argument assumes exaggerated anti-development and anti-growth attitudes on the part of new arrivals to rural areas so as to keep the natural, uncrowded conditions that attracted them in the first place. We found each group overwhelmingly favored the general concept of protecting public lands to preserve the environment, and strongly rejected the idea of opening up public lands to unrestricted private development. We did, however, find partial support for H_7 and H_8; in-migrants, especially the more recent group of arrivals, were significantly greener on these issues than their non-migrant opposites.

On the other hand, both in-migrants and non-migrants were equally equivocal about private development of public lands to sustain local economic growth and both groups were equally amenable (and slightly pro-development) to private development of public lands under conditions that stipulate protection of the physical environment and quality of life in the community. In fact, the data hint that in-migrants may be a bit more pro-development under certain circumstances, although the differences are not

statistically meaningful. While more recent in-migrants to the watershed were significantly more opposed to *carte blanche* development of public lands, our findings point to little overall support for the *gangplank* or *culture clash* hypotheses. Rather, we again see evidence that is in line with Blahna's (1990) *cultural infusion* framework, Fortmann and Kusel's (1990) *new voices* argument, and Jones et al's (2001) *green migration* thesis – all of which hold that the culture clash hypothesis is overly simplistic.

Our results, which imply a higher level of environmentalism than we expected from non-migrants, could be due to a sense of cultural loss or loss of community that is a function of length of residence, and thus felt more keenly by non-migrants. If so, this threat of loss could have offset any potential gain they might derive from expanded growth and development. Our findings are similar to those reported by Smith and Krannich (2000) in their study of three rural communities in the Rocky Mountain West. Their conclusions indicate significant differences in a number of sociodemographic dimensions between newcomers and longer-term residents, but no significant group differences in two of the three communities over growth and development issues. The speculated that part of the reason for lack of support for the gangplank hypothesis was the possible loss of the social and personal identity was a greater threat to longer-term residents, who were therefore less supportive of growth and development. They concluded that differences between long-standing residents and newcomers may well exist, but that public perceptions may be distorted by media accounts, and that the two groups (newcomers and oldtimers) may occupy more common ground than conventionally assumed.

When we looked for differences between in-migrants and non-migrants regarding intent or commitment to support environmentally related activities,[26] we expected to find in-migrants more likely than non-migrants to be so committed. Both groups showed slight to moderate interest in participating in such activities, with no significant differences between the groups. We should note that the survey asked residents about their "interest in participation," rather than their "intent to act or behave." Wile these questions are conceptually akin, they are not the same, and thus temper our conclusions somewhat.

Consistent with recent research on political awareness and activity in rural areas, we hypothesized (H_{10}) a more politically active group of in-migrants.[27] The data, however did not support our expectations. Our measures of political behavior – voting, attendance at public political meetings, and active membership in an environmental group – reflect more uniformity than disparity. Each group reported an equally high (about 80%) rate of voting in local elections. Likewise, each group reported approximately equal rates of attendance at public political meetings and in being active in an environmental group, about 30 percent and 15 percent, respectively.

These data, surprisingly, do not support the hypothesis of a significantly more politically committed and engaged in-migrant population in rural areas. They do, however, indicate a politically engaged rural population in the watershed. Eight of ten rural residents (in-migrant and non-migrant) of the Norris Lake watershed report usually

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[26]For a summary table of this discussion, see Chapter V, Table 13.

[27]For summary tables of this discussion see Chapter V, Tables 14, 15, and 16.

voting in local elections. Almost one in three rural residents (in-migrant and non-migrant) report having attended a public political meeting, and about one in six (in-migrant and non-migrant) report active membership in an environmental group.

Our findings run counter to Blahna's (1990) *cultural infusion* proposition, which extends the culture clash perspective by including organizational and environmental factors that bear on potential migration-related conflict in rural areas. He suggests that in-migrants infuse leadership and organizational talents with their arrival at rural communities, believing that the introduction of these proficiencies may lead to either conflict *or* cooperation between newcomers and longer-term residents, depending on the nature of the environmental issue and the manner in which newcomers are integrated into the social and political life of the community.

Our findings are also inconsistent with generally reported higher levels of political commitment and behavior on the part of in-migrants to rural areas. The lack of statistically meaningful differences in political participation, chiefly associated with more affluent and more educated migrants, could be attributable to the statistical age equivalence of the two groups. In this case, in-migrants and non-migrants have an average age in the low 50s, a time in life where voting and other forms of political participation are typically higher than in the general population. Our findings could also have been biased by length of residence. Lifetime residents and longer-term migrants, with more time living in the watershed, will have had more chances to vote, to attend meetings, and/or to get involved in environmental group membership than more recent migrants.

The overall similarity in levels of environmentalism on the part of in-migrants and non-migrants living in the watershed could be due in part to historical and cultural factors associated with the Southern Appalachian area in general. The region's culture, history, and sense of community, as well as its record of social activism, are strongly rooted in the land and the environment, and many of its residents apparently still embrace some aspects of Leopold's (1948) land ethic. Rural Southern Appalachia has been transformed over the last several decades as its people have worked to preserve the area's unusual environmental and cultural heritage against a strong tide of demographic, socioeconomic, and technological change (Jones et al 1999).

The Norris area was transformed in the early 1930s with the creation of the Tennessee Valley Authority and the construction of the Norris Reservoir Watershed. The town of Norris, built to house construction workers at the dam, was designed as a planned community with many public places fitted into the natural environment. The notion that a strong historical and cultural identity with the natural beauty and aesthetic appeal that characterizes the Norris Lake area implies a certain environmental consciousness peculiar to this area. If so, it may be reinforced by generally high levels of public support for environmental protection across the United States and a general greening of our institutions.

Implications for further research.

Our findings point to a relationship between continuing in-migration to rural areas for reasons related to quality of life and natural amenities, and the closing of the rural-

urban gap in environmental concern. Increased support for environmental values in rural areas may be explained in part by the influence in-migrants have on the composition and character of rural communities. Additional research, however, is necessary to address how these communities are changing as a result of growth and the implications of these changes for natural resource management.

We have also seen that concern for environmental protection does not represent solely the values of an elite or politically radical group of Americans, and probably is dispersed more generally throughout the social structure than past research indicates. If the social bases of environmental concern are broadening, sociodemographic variables will become increasingly less useful as predictors of environmental concern, and the amount of variation explained by these variables will also decline over time. The complexity of environmental values and ecosystem management issues, the diversity of groups affected by them, and the varied ways these issues are conceptualized and measured severely limits the development and use of a standard sociodemographic profile of environmental supporters. That said, it is not likely that the analysis of the social bases of environmental concern will lessen; this field of study will continue to provide a general indication of which groups are more likely to be more concerned, better informed, and more committed to environmental values. But we do need to continue to move beyond simple sociodemographic indicators and attitudinal predictors of environmental concern to more complex models of environmentalism that connect fundamental values to pro-environmental behavior. This effort would eventually include the nesting of environmental values with a larger set of social values.

We have provided empirical support for the notion of rising support for environmental values in rural America. We have also established support for the corollary view that rural in-migrants and rural non-migrants put a high value on environmental protection and preservation, but in-migrants are relatively more pro-environment, overall. While this suggests common ground for in-migrants and non-migrants, it also implies social conflict that might arise over environmental issues are more likely to be over environmental value priorities, rather than radically different beliefs, attitudes and values about the environment *per se*.

These results suggest a need for the use of multiple methods (triangulation) to focus on specific effects or single research questions about the effects of in-migration to rural areas. For example, the nature of a survey limits access by researchers to certain kinds of information at a given point in time. In our study, we might have been able to learn more about in-migrant/non-migrant differences regarding behavioral intent and actual behavior had we been able to incorporate follow-up interviews into our research. In like manner, we see a need for new research paradigms that integrate research on biophysical and social values and incorporate conclusions from the physical and social sciences. These new paradigms assume the natural environment is both influenced by and influences the social environment, and exemplify the cross-disciplinary qualities of the study of environmental issues and major contributions by sociologists, social psychologists, political scientists to the public management of natural resources. Methodological and theoretical shifts in these directions should better enable increased coordination of biophysical and social values in policy, planning, and management issues.

Consideration should be given to the expanded use of the Geographical Information System (GIS) in sociological inquiry. In our study, we used GIS as a methodological tool to determine which census blocks wee inside the watershed's biophysical boundary. The system has the potential, however, to turn geographical features into social variables. Plotting rural locations from sociodemographic information to look for patterns is an obvious practical example, but the technology could be readily applied to community studies or environmental justice issues, for example.

The salience of environmental issues for the general public implies a greater need for more research on the relationship between public opinion on the environment and voting by elected officials, as well as voting for political candidates at local, state, and national levels. How or if these voting patterns are related to how pro- and anti-environmental groups frame environmental issues in the political arena is also a potentially rich area for sociological inquiry.

This dissertation has contributed to the understanding of rising environmental values in rural America. Although our work is centered on the study of environmental values and the influence of in-migration on environmental values in rural areas, it also has implications for environmental policy-makers and natural research managers. Our research is useful to an important emerging area of study, the human dimensions of natural resource management, as well as being of interest to traditional natural resource agencies. This research also contributes to environmental sociology by moving beyond traditional studies of environmental concern toward the study of levels of environmentalism, a broader and more meaningful field of study. We view it as part of a

growing accumulation of research into the phenomenon of growing environmentalism in rural America's increasingly diverse population.

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APPENDICES

Appendix A

Survey questions: Age, education, income, employment, gender, and political views

Q85. What is the year of your birth? _____

Q86. What is the highest level of education your have completed?

1. Less than high school diploma.
2. High school diploma, GED, or equivalent
3. Some college (including vocational, trade, or junior college graduate)
4. College degree or greater
8. Not sure
9. Refused

Q87. I am going to read a list of income categories. Please tell me which category best describes the total amount of income received by your household in 1998. Please stop me when I get to the right category

1. Under $15,000
2. $15,000 to $24,999
3. $25,000 to $34,999
4. $35,000 to $49,999
5. $50,000 to $74,999
6. $75,000 or more dollars
8. Not sure
9. Refused

Q83. Are you, or any member of your household, employed in farming, ranching, timber, mining, or any natural resource extractive industry?

1. Yes
2. No
8. Not sure
9. Refused

Q84. Are you, or any member of your household, employed in outdoor recreation, wildlife management, environmental protection, eco-tourism, or any job that is based on natural amenities?

1. Yes
2. No
8. Not sure
9. Refused

Q92. For survey purposes, I need to ask you are you male or female?

Q88. Which of the following best describes your political views?

1. A conservative Republican
2. A moderate Republican
3. An Independent
4. A moderate Democrat
5. A liberal Democrat
8. Not sure
9. Refused

Appendix B

Survey questions 48-57:
Integrated Value Systems Scale[28]

I am going to list values that motivate people. Please tell me how important each value is at motivating you, on a scale where 1 is extremely important, and 5 is not important at all.

Q48. To have control or dominance over people and resources.
Q49. To preserve and enhance the welfare of people I know.
Q50. To appreciate and protect the welfare of all people and nature.
Q51. To have personal success and achievement
Q52. To obtain personal pleasure and gratification.
Q53. To conform to social expectations and norms.
Q54. To accept the customs and ideas that traditional cultures and religions provide.
Q55. To be safe and secure, in myself, my relationships, and in the country.
Q56. To acquire independent thinking and action.
Q57. To be exposed to new things and new challenges.

---

[28]Questions 48-57 are measures of the following motivational value types: Q48 (Power), Q49 (Benevolence), Q50 (Universalism), Q51 (Achievement), Q52 (Hedonism), Q53 (Conformity), Q54 (Tradition), Q55 (Security), Q56 (Self-direction), Q57 (Stimulation).

All questions (Q48-Q57) were recoded so higher scores indicate higher importance as a motivating value.

Definitions of motivational types of values in terms of their goals and the single values that represent them

Motivational Value Type	Goals and Values[29]
POWER:	Social status and prestige, Control or dominance over people and resources. [Social power, Authority, Wealth, Preserving my public image, Social recognition]
ACHIEVEMENT:	Personal success through demonstrating competence according to social standards. [Successful, Capable, Ambitious, Influential, Intelligent, Self-respect]
HEDONISM:	Pleasure and sensuous gratification for oneself. [Pleasure, Enjoying life]
STIMULATION:	Excitement, Novelty, Challenge in life. [Daring, Varied life, Exciting life]
SELF-DIRECTION:	Independent thought, Action-choosing, Creating, Exploring. [Creativity, Freedom, Independent, Curious, Choosing own goals, Self-respect]
UNIVERSALISM:	Understanding, Appreciation, Tolerance and protection for the welfare of all people and for nature. [Broad-minded, Wisdom, Social justice, Equality, A world at peace, A world of beauty, Unity with nature, Protecting the environment]
BENEVOLENCE:	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact. [Helpful, Honest, Forgiving, Loyal, Responsible, True friendship, Mature love]
TRADITION:	Respect, Commitment and acceptance of the customs and ideas that traditional culture or religion provide the self. [Humble, Accepting my portion in life, Devout, Respect for tradition, Moderation]

[29]Goals are listed first, followed in brackets by individual values.

CONFORMITY:	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms. [Politeness, Obedience, Self-discipline, Honoring parents and elders]
SECURITY:	Safety, Harmony and stability of society, relationships, and self. [Family security, National security, Social order, Clean, Reciprocation of favors, Sense of belonging, Healthy]

Appendix C

Survey Questions 40-47:
New Ecological Paradigm Scale[30]

Next, please tell me whether you strongly agree, mildly agree, are unsure, mildly disagree, or strongly disagree with each of the following statement about the relationship between humans and the environment.

1. Strongly agree
2. Mildly agree
3. Unsure
4. Mildly disagree
5. Strongly disagree

Q40. We are approaching the limit of the number of people the earth can support.
Q41. Humans have a right to modify the natural environment to suit their needs.
Q42. Human ingenuity will insure that we do NOT make the earth unlivable.
Q43. Humans are severely abusing the environment.
Q44. The earth is like a spaceship with very limited room and resources.
Q45. Humans were meant to rule over the rest of nature.
Q46. Humans will eventually learn enough about how nature works to be able to control it.
Q47. If things continue on their present course, we will soon experience a major ecological catastrophe.

---

[30]Items were taken from Dunlap et al (2000:433). Q40-47 are measures of the following dimensions or facets of an ecological world view: Q40 and 44 (Limits to growth), Q41 and 45 (Anti-anthropocentrism), Q42 and 46 (Rejection of human exemptionalism), Q43 and 47 (Possibility of an eco-crisis).

Agreement with Q 40, 43, 44, and 47 and disagreement with Q41, 42, 45, and 46 indicate pro-NEP responses. Accordingly, Q40, 43, 44, and 47 were recoded so high scores would equate to more pro-ecological views. The alpha coefficient (.63), as expected, indicates a lower degree of internal consistency than if we would have been able to use the entire 15-item, 5 facet scale, which has an estimated reliability coefficient of .83.

Revised New Ecological Paradigm Scale[31]

1. We are approaching the limit of the number of people the earth can support.
2. Humans have the right to modify the natural environment to suit their needs.
3. When humans interfere with nature if often produces disastrous consequences.
4. Human ingenuity will ensure that we do NOT make the earth unlivable.
5. Humans are severely abusing the environment.
6. The earth has plenty of natural resources if we just learn how to develop them.
7. Plants and animals have as much right as humans to exist.
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.
9. Despite our special abilities humans are still subject to the laws of nature.
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.
11. The earth is like a spaceship with very limited room and resources.
12. Humans were meant to rule over the rest of nature.
13. The balance of nature is very delicate and easily upset.
14. Humans will eventually learn enough about how nature works to be able to control it.
15. If things continue on their present course, we will son experience a major ecological catastrophe.

---

[31]Three items are intended to measure each of the five hypothesized dimensions of an ecological world view: the reality of limits to growth (1, 6, and 11), anti-anthropocentrism (2, 7, and 12), the fragility of nature's balance (3, 8, and 13), rejection of exemptionalism (4, 9, and 14), and the possibility of an eco-crisis (5, 10, and 15).

The eight odd-numbered items are worded so that agreement indicates a pro-ecological view, and the seven even-numbered items so that disagreement indicates a pro-ecological world view.

Appendix D

Survey Questions 10-11:
Environmental Concern Scale[32]

Q10. Are you very concerned, moderately concerned, moderately unconcerned, very unconcerned about the environmental quality of public lands and waters in the Norris Lake Watershed Area, or are you unsure?

1. Very concerned
2. Moderately concerned
3. Moderately unconcerned
4. Very unconcerned
5. Unsure

Q 11. Are you very concerned, moderately concerned, moderately unconcerned, very unconcerned about environmental issues facing the nation, or are you unsure?

1. Very concerned
2. Moderately concerned
3. Moderately unconcerned
4. Very unconcerned
5. Unsure

[32]For analysis, scales were recoded so high scores indicated high levels of concern. "Unsure" was recoded "3" and placed in the center of the scale.

Appendix E

Survey questions 35-39: Development and environmental protection[33]

Next, please tell me whether you strongly agree, mildly agree, are unsure, mildly disagree, or strongly disagree with each of the following statements about private development on public lands in the Norris Lake Watershed Area.

1. Strongly agree
2. Mildly agree
3. Unsure
4. Mildly disagree
5. Strongly disagree

Q35. Public lands in the Norris Lake Watershed area should be open to private development.

Q36. Public lands in the Norris Lake Watershed area should be open to private development only if it is necessary to sustain local economic growth.

Q37. Public lands in the Norris Lake Watershed area should be open to private development only if it does not threaten fish and wildlife habitat.

Q38. Public lands in the Norris Lake Watershed area should be open to private development only if it does not degrade the quality of life in the surrounding communities.

Q39. Public lands in the Norris Lake Watershed area should be protected to preserve the environment.

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[33]For questions 35-38 higher scores indicated a less favorable attitude toward private development of public lands and a more favorable attitude regarding protection and preservation of public lands for environmental reasons. Question 39 was recoded so that higher scores indicated a less favorable attitude toward private development of public lands and a more favorable attitude regarding protection and preservation of public lands for environmental reasons.

Appendix F

Survey questions 18-20: Interest in participation in environmentally related public interest activities[34]

Next, I am going to list several activities associated with public lands in the Norris Lake Watershed Area. Please tell me if you would be very interested, moderately interested, slightly interested, or not at all interested in participating in each one. The first one is ...

Q18. Helping to improve fish and wildlife habitats on public lands in the Norris watershed area?

1. Very interested
2. Moderately interested
3. Slightly interested
4. Not at all interested

Q19. Helping to improve recreational management on public lands in the Norris watershed area?

Q 20. Being involved in a citizen-based, watershed coalition that would be supported by government agencies to help address natural resource issues?

[34]We reversed the coding on all three questions so that higher scores indicate a higher interest in participation.

Appendix G

Survey questions 79-81:
Measures of political activity

Q79. Do you usually vote in local elections?

1. Yes
2. No
8. Not sure
9. Refused

Q80. Have you every attended a public meeting or a forum held by a government agency such as the TVA?

1. Yes
2. No
8. Not sure
9. Refused

Q81. Ar you, or anyone else in your household, an active member in a club, group, or organization that tries to improve or protect the natural environment?

1. Yes
2. No
8. Not sure
9. Refused

VITA

James Talley was born in Saint Louis, Missouri on May 28, 1943. He attended various public schools on military bases and small towns in the United States and Territory of Hawaii, eventually graduating from Mabelvale High School, near Little Rock, Arkansas in 1961. He entered Arkansas Polytechnic College in August, 1961 where, in May 1965, he received Bachelor of Arts in Sociology. Upon graduation, he was commissioned a Second Lieutenant in the United States Army. He received the Master of Arts in Sociology from the University of Arkansas in 1975 and was a Senior Executive Fellow at the John F. Kennedy School of Government, Harvard University in 1993. In June 1995 he retired from the United States Army with the rank of Colonel. In January 1996, he entered the University of Tennessee to pursue the Doctorate of Philosophy in Sociology. The doctoral degree was granted in December 2001. He now is a fork lift operator at the Walmart Superstore in Lenoir City, Tennessee.